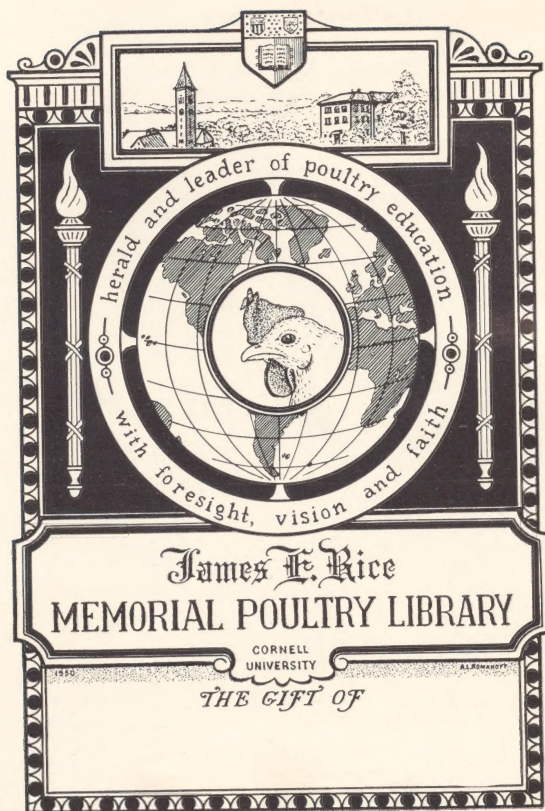


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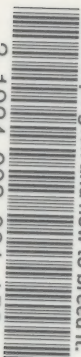
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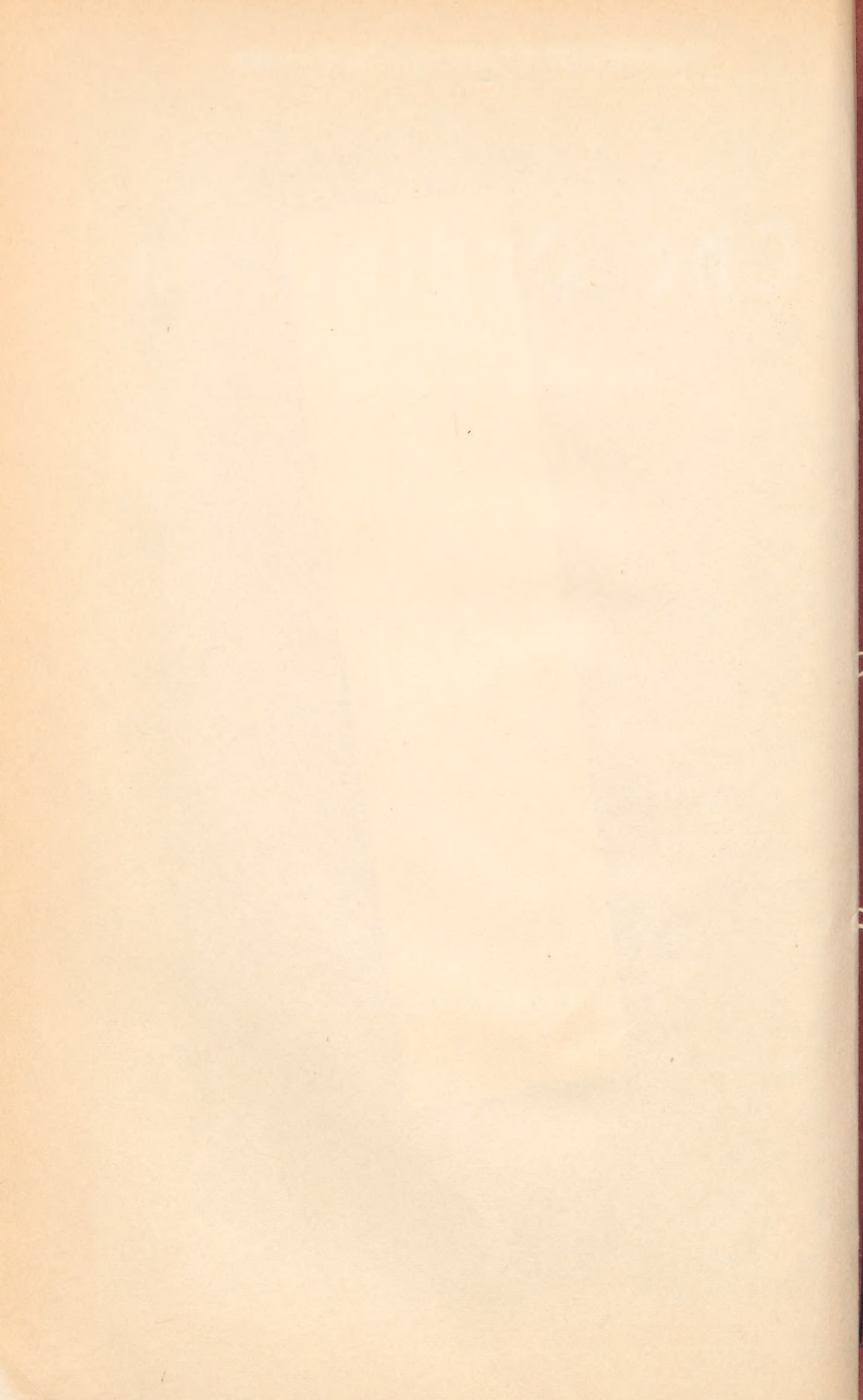
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The Orpington and how to breed it.



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The Orpington

And How to Breed It.

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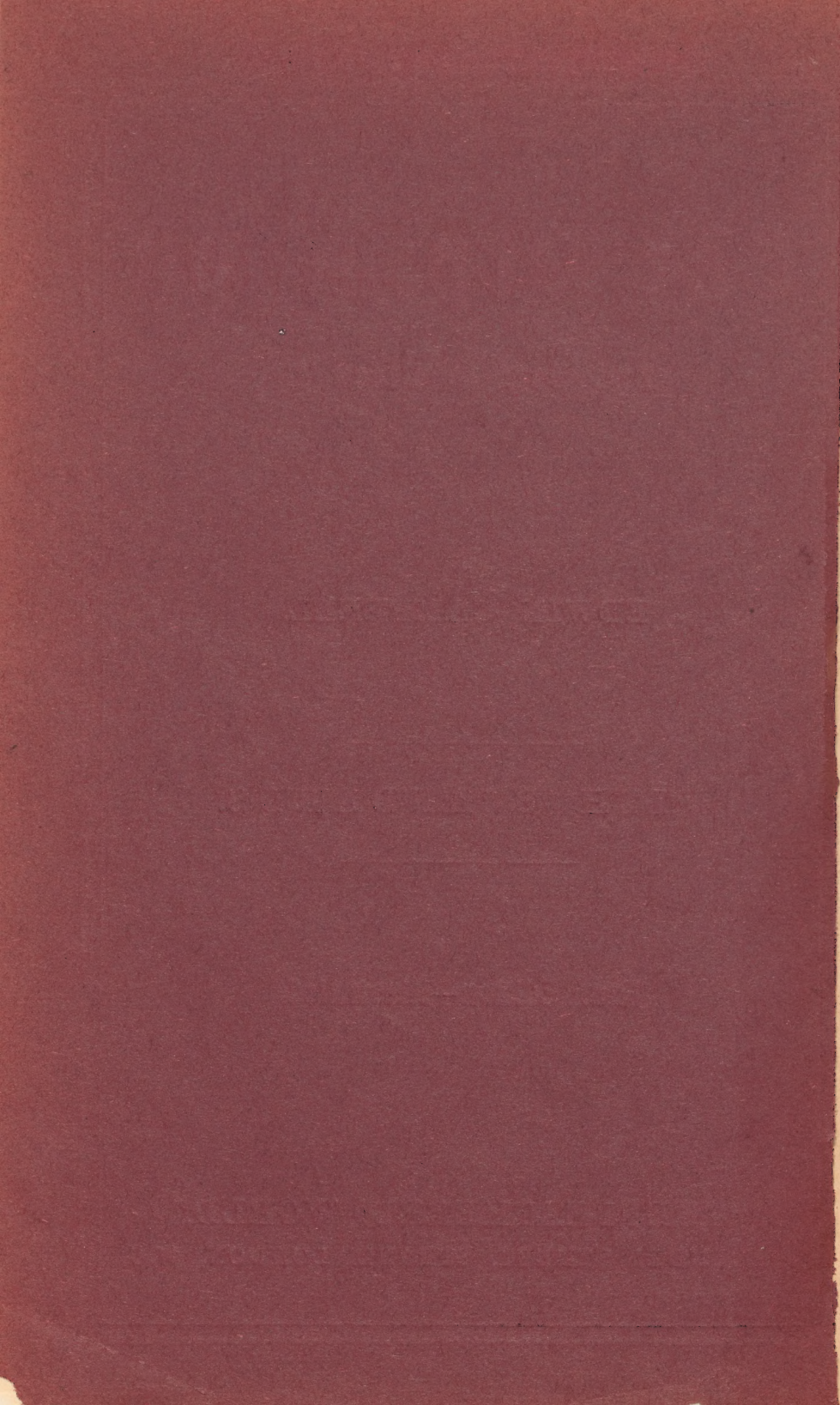
EDWIN CAMPBELL.

WITH STANDARDS.

First Edition—Illustrated.

“THE FEATHERED WORLD,”

9 ARUNDEL STREET, STRAND, LONDON, W.C.



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And How to Breed It.

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INTRODUCTION.

It is customary for the author of a treatise like this to apologise for his intrusion; but in this respect I propose to depart from custom, for the good and sufficient reason that I do not consider myself an intruder.

The Orpington may justly claim to be one of the most popular, as it is certainly one of the most useful and utilitarian, of our domestic fowls. It has been bred and exhibited as a fancier's fowl since 1886, and yet beyond Mr. De Courcey Peele's admirable little brochure—now somewhat out of date, however—nothing in the way of a special guide to the inexperienced or the student has been published concerning it. It is for that reason that I do not consider myself an intruder, and I may say that my reason for attempting to provide such a guide, is that I found it practically impossible to obtain from existing poultry text-books much of such special information as I have endeavoured to collect and collate for the assistance of those who may not have the time, the patience, or the opportunity to acquire it for themselves.

E. CAMPBELL.

HILLSBORO', WALLINGTON,
SURREY, *September*, 1903.

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THE ORPINGTON AND HOW TO BREED IT.

CHAPTER I.

WHY THE ORPINGTON IS POPULAR.

As this is intended to be a young breeder's handbook rather than a historical essay, I will direct such of my readers as are curious on the matter to apply to Mr. Lewis Wright's magnificent "Book of Poultry" for all information regarding the origin of the Orpington.

My view of the subject is that, no matter how it was raised—and it seems obvious that it could have been and, perhaps, was originated in a variety of ways—the crux of situation is that we have it with us as the grandest all-round utility and fancy fowl of the present day.

For the poultryman and farmer its chief attractions over most other birds are its size, its hardiness, its fast-growing proclivities, its good laying and table qualities, and general orderliness when ranging or when confined. It is essentially a farmer's and a cottager's fowl, for no other, in my experience, combines each of those attributes to such an extent.

The reason why I am an Orpington breeder to-day is that when I set about discovering for myself which was the most economic of all our pure breeds, out of a dozen varieties with reputations of one sort or another, the Orpington—there was only one variety of it then—came in a rather easy first. I do not say that everybody would reproduce my experience to-day; but I do say that, taking the consensus of opinion of all classes of English poultry-keepers, the Orpington in point of utility will probably rank as our most popular breed.

As a fancier's fowl, the schedule of almost every poultry show held in the kingdom attests to its position and universality. There

are good reasons for this. It is a very handsome fowl, and the demand for good specimens is constant, and prices rule high. The bird breeds so true to type and colour that it is absolutely certain that the breeder who starts with good sound high-class specimens will get results far in advance of the breeder who, while owning fairly good breeders, trusts to luck to send him anything like a high-grade bird.

There is, of course, luck in breeding just as in most other lines of life, but there is not, to my way of thinking, any luck of the lottery order. You need not expect to breed good birds from indifferent stock. You may expect to breed better birds than you have got if you know enough of the art of mating; but they are certain to be, even with the best of fortune, so very little better that no breeder of experience would countenance a policy of such false economy as the purchase of poor stock-birds.

I would not, on the other hand, counsel the purchase of high-class show specimens to win with, and breed from, unless you are certain that they are the offspring of birds of almost equal merit.

The road to the breeder's perfection is mapped out in short stages, and although Nature at times takes a short cut to arrive at a certain point, she does not hold to it. By this I mean that, although it is possible to breed a good specimen occasionally out of an inferior mating, any attempt to continue the excellence of that specimen by breeding from it with birds equal or almost equal in merit to itself will end in disappointment. It is a "sport," to use a breeder's term—a "sport" being an offspring dissimilar to the parent stock—for although the majority of "sports" are decadents there are some which rank as vast improvements. But if, as I have said, the improvement has been greatly in excess of the normal advance obtained by judicious mating, to expect that advance to be maintained will only lead to disappointment.

It is for that reason that experienced breeders insist on knowing at least the "strain" from which their stock-birds come; and it is for that reason that breeders will pay double and treble the price for the same quality of birds out of a famous yard than for one out of an unknown pen.

Probably the main reason for the Orpington's popularity with the fancier is that his breeding season, however disappointing it may be, is never so barren as with some other varieties. No Orpington is so bad in feather and form as to be useless for the utility pen or the fatterer. The demand for Orpingtons of almost any class is brisk, but for what the breeder calls "rough stuff" it seems inexhaustible, and at prices in advance of those given for any other heavy breed of the same age.

The poultry fatterer will buy buff Orpington chickens at all times of the year in preference to almost any other, because he knows that they will fatten quickly and surely, will pluck well, and have got the white skin and legs which are so requisite for the high-class London dead poultry trade.



MRS H. O. BURTON'S BLACK ORPINGTONS.

The cottager is only too glad to pick up the breeder's culls at fatterer's prices, for he has learned by experience that they are better than any he can raise for himself.

Where leg colour is not of any great account the black Orpington comes in on its generally deeper breast and larger bulk, and, I fancy, better flavoured meat—but that may be a mere personal assumption.

I do not advance these opinions in any sense antagonistic or derogatory to other pure breeds, for I am an admirer of many others as well as the Orpington. I merely state them to account for the fact that not even the Wyandotte with its fine utility qualities, its obvious beauty, and its half-dozen widely bred varieties, can claim a greater popularity or such well-filled classes at important shows than the buff and black Orpington.

Here let me voice a protest. It is the fashion with the thoughtless and ignorant to sneer at the fancier for having "destroyed" the good qualities of certain breeds; but it is always forgotten that if the fancier's efforts have at times withdrawn one excellent attribute they have generally supplied or emphasised another in its place, and that only because the two could not exist in the same body. But if he never did anything more than give the world the Orpington, the fancier would have done enough to earn the gratitude of the political economist whose ideal it is to make two ears of wheat grow where but one grew before.

It is the fancier who has produced and has maintained size and weight in our poultry, allied to the conformation which ensures the maximum of meat for the minimum of offal, and this too in breeds in which is combined, as in the Orpington, a uniformly high average of egg production, which no mongrel fowl can approach save in isolated instances.

CHAPTER II.

THE VARIETIES OF ORPINGTON.

THERE are, in all, no fewer than six distinct varieties of Orpington, none of which save, perhaps, the white and buff, have a common source of origin. First came the black single-combed Orpington, followed closely by the rose-combed black. The latter, however, never caught the popular fancy, and only on antiquated schedules do you see it alluded to, although, of course, it is eligible for competition in a "Black Orpington" or "Any Orpington" class.

In 1894, the buff single-combed Orpington was first exhibited, followed again by a rose-combed variation. The latter, like its black *vis-a-vis*, failed to catch on, and is now seldom seen though a favourite in America.

Then came the white Orpington, and lastly, the spangled or diamond jubilee Orpington, which latter name was given to it by the originator of the breed, out of compliment to the late Queen Victoria, whose diamond jubilee was being celebrated at the time of its appearance. Of all these only the single-combed buff Orpington really touched the public fancy; but its meteoric rise and enormous success reconciles us to the presence of a multiplication of varieties for which no real use seems to exist.

At the moment a club is being formed to further the interests of these less popular varieties; but I do not think that I shall be accused of undue pessimism when I suggest that the white Orpington alone is likely to succeed.

For this beautiful breed I have a very genuine liking, but the great difficulty of preserving purity in the plumage of white fowls must bar it to many who, like myself, would be happy to give it a place could its attractiveness be maintained with less trouble and expense. In its purest type it has been bred from white "sports" of the buff variety. It is at once a striking and a handsome fowl with true Orpington characteristics. It lays well, grows quickly, and, for those who have plenty of shaded grass or orchard land, I would recommend it. But for the ordinary suburban fancier or the man who cannot shade his runs it is an impossibility. From a fancier's point of view the trouble of preparing such a bird for show is a deterrent unless the reward is ample. And at the present that is just what it is not. In the course of the year there are probably not half-a-dozen special classes provided for it, and the expense and care necessary to be ready for these is just as great as if there were classes every week.

For the diamond jubilee or spangled Orpington I am unable to raise any great enthusiasm. A multiplication of varieties may be all right from an originator's point of view, but they need something more than these have to recommend them, to justify the breeder taking either up in face of many other beautiful and distinctive breeds.

Nor can I say much more for the attempt to perpetuate the rose-combed varieties. Popular fancy has fixed on the single-comb as the badge of the Orpington tribe, and even though most breeders would have been probably as ready to adopt the rose-comb had it arrived first, or with the better specimens. The reverse being the case, it is only reasonable to suggest that rose-combs should be conceded as the Wyandotte's birthright just as the yellow leg is the chief distinguishing mark between the buff Rock and buff Orpington.

This brings us down to the two leading varieties in the black single-combed and the buff single-combed Orpington, popularly referred to hereafter as "blacks" and "buffs."

Although it is generally accepted in theory that there is nothing but colour to distinguish the two varieties, there are in reality very great and material differences. In type for instance, a difficulty in the black is to keep the tail within symmetrical limits, for if ill bred

it generally develops quite a large and high pitched tail. In the buff, on the other hand, a difficulty is to get sufficient tail with a broad enough feather.

Type in blacks insists on a short leg and a square, massive, well let-down body. Type in buffs at the moment is almost a minor matter, and you can go to any leading show and find half-a-dozen different types carded—colour in feather mostly determining the awards.

Size, too, is a *sine qua non* in blacks. It only comes into the judging of buffs when birds are otherwise level as to colour and type.

For these reasons buffs, as a whole, do not exhibit that grand massiveness and bulk which one can find in the best blacks. But now that the value of type has been given a proper place in the buff Orpington standard, we may hope for an improvement, for size follows type in the breed as certain as day follows night.

It is urged that the buff colour is so difficult to secure that its value from a breeder's point of view far transcends type or size, and no one who has bred buffs will deny the great cogency of the argument. But many thoughtful lovers of the breed have, like myself, deplored the extreme lengths to which some breeders have gone, and which some judges have sanctioned, in search of purity of plumage alone. I have seen a buff dorking cockerel, so far as type and characteristics go, even at the Dairy Show, and, truth to tell, he had to win or the judge, himself a sound buff breeder, would have been attacked from every quarter.

The very pronounced advance made in colour, within the last couple of years, has so altered the situation that I think the buff breeder who loses sight of type and size may find himself awkwardly situated.

As black breeders know it is very difficult indeed to breed in type and size. As a rule it is not attempted, because it is cheaper, easier, and more satisfactory to get fresh blood and start afresh. Should it occur, as is not improbable, that type and size shall be demanded as imperatively in buffs as in blacks, then the breeder who has neglected these points will find himself out of the running for some time.

To secure feather colour, in-and-in-breeding has been resorted to by some breeders, with such success that in many instances long backed and narrow-chested types have been so fixed that their prepotency is very strong, and they will resist change accordingly and revert back in a most irritating manner.

That in-breeding of this sort is absolutely necessary to secure colour we have been told by some authorities, and their success shows that it is sound in practice at least. But that it has been retained by more than one noted buff breeder who indulges in fresh blood each season for his best pen so as to maintain type, substance, and stamina, is proof to me at least that although a ready method it is not quite indispensable. And as it brings other dangers in its train,

only dire necessity can justify it—such a necessity as is gradually being swept away by the general advance towards a pure buff feather.

Other and more general points of difference between the two varieties in my experience are:—Blacks are much less disposed to brood. I have had black hens which only brooded twice in three years. But when they want to set they are not so easily put off as are most buffs. My buffs on the other hand generally want to brood at the end of each lay, and the first touch of genial weather in spring brings them into such a condition that they will brood in a puddle of water if no better nesting place is permitted them.

In point of laying my experience is that there is not much to choose between the colours. The buffs, as a rule, lay earlier and pile up the eggs more rapidly when in the mood, but they brood more often. The black generally lays a larger egg over a longer period, and in the course of the year's work will probably have laid a much greater weight of eggs than the buff. But egg production is largely a matter of strain and size and handling—not merely during the laying period but during the rearing of the pullet.

As regards stamina and hardiness it is a general characteristic of both birds that the higher the grade of the bird the greater the liability to infertility in the adults, and the more difficult it is to rear the progeny. Why this should be, I may, perhaps, suggest, but since experiences differ so widely I am prepared to find myself largely contradicted.

Where any difficult physical characteristic, such as great size, pure colour, or massive bone has to be secured, the breeder is constrained to put aside all other and less important considerations to secure his aim. A good coloured buff pullet, even though young or weedy, is bred from for feather. A gigantic if awkward cockerel must be used for size. Their defects may be, and are, corrected by the experienced breeder; but Nature invariably exacts her toll for the concession. The weedy pullet's progeny, to the third and fourth generation, will probably revert to similar characteristics. The big, awkward cockerel will not fill a very large proportion of his eggs—to use a breeder's expression. Heavy birds, very large birds, birds with faulty feet or any awkwardness in gait are generally more infertile than smaller and smarter specimens. In-breeding too brings infertility as a rule, and most certainly a weakened constitution in the chickens, which are from this cause most difficult to rear. Those that survive may and can be strong enough in themselves, but the difficulty of raising their chickens in turn will be very real unless harder blood is inducted.

Big hens and pullets seldom lay as well or are as healthy or hardy as smaller ones, nor do they start laying so soon either in their first or subsequent years. There is a fly in every pot of the breeder's ointment, and the man who cannot accept these drawbacks with equanimity should not attempt to breed Dairy or Crystal Palace winners.

The average Orpington chicken however, black or buff, is quite hardy, and will thrive with those of any other breed. My experience is that the buff grows faster for three or four months. Then the black begins to make up leeway, and if it comes of big stock continues to grow on after the buff has commenced to fill out. But a great deal depends on the breeding, the feeding, and the handling of the chickens. I have had black pullets laying at four and a half months old—and that is a very general (to a fancier) fault with buffs, probably because they are coddled more in order to prevent the sun and weather getting at their soft plumage.

I have also had black pullets that did not commence to lay until they were nine months old—though never a buff which hung so long. And these nine month old layers are perfection for breeding, if in themselves good specimens. This is probably because they have reached maturity before any call has been made on their systems. Their frames are well knit, and they are invariably the largest birds in the roll call of the season's breeding. They are the birds you see in the pens at the Agricultural Hall and Crystal Palace Shows, and, if not over exhibited, are generally the parents of the birds seen at succeeding Dairy and National Shows.

There is still another difference in raising blacks and buffs, and to the small breeder it means much. The proportion of birds practically useless for competition at shows is very much higher in buffs than in blacks. In the latter mismarked birds are very few, and considerations of size and colour alone come in to decide the eligibility of the bird.

I think that I am right in asserting that more than one buff breeder has raised over a hundred chickens from really high-bred stock and yet had to buy his winners. Of course, competition in buffs is keener, but the winning qualities are also more difficult to breed than in blacks, as the latter breed more true and the points to breed to are more fixed and easy to distinguish. As against that, however, when you do strike a lucky seam in mating, the reward is richer in buffs than in blacks, for exhibition winning specimens are sure of a ready sale at prices ranging from £10 to £50.

For breeding purposes, however, the good black as a rule commands as sound a price. This is because the breed being more fixed the black can be relied upon to throw something similar to himself or herself, whereas the buff show bird, and especially the show cockerel, is not always a breeder of promise, often not an acceptable breeder at all, so great is the latitude taken by the buff judge in matters of type, colour and size.

On the other hand there are many buff birds unfit for competition which can be relied upon from their breeding to throw a good proportion of birds better than themselves; but that is only where the parent stock has been high class and a temporary relapse has occurred owing to breeding out or some similar move.

Generally speaking, I would advise the small or city or suburban breeder to take up blacks for the reasons I have set out, or are

deducible from what I have written. His single pen ought to give him good cockerels and pullets fit to show—if he has started with show specimens. The buff fancier needs more room to raise more chickens, a purer air to keep his colour clear, and shade and shelter to prevent the sun from fading, and the rain from bleaching his birds. He cannot reasonably expect to raise good cockerels and pullets from the same pen, and he will do best even when he has room for half-a-dozen pens to confine his energies to making his mark either in pullets or cockerels.

He may do so in both—if he spends enough money and has the judgment to get his money's worth—but I look in vain for any amateur breeder of note to-day who has succeeded in doing so. The inference is simple. As a rule, where the winners in both classes are entered in the same name in big shows one or both have been bought, not bred. And since pullet breeding is the more generally remunerative line, and also I think the more satisfactory, I advise it to the would-be buff breeder.

CHAPTER III.

THE ART OF MATING.

I DO not pose as a purist in modes of expression, but I must confess to a dislike for the phrase "scientifically mated." I do not follow its meaning—if it has one beyond a full sound and an imposing appearance in an advertisement.

Here is no application of science, to my mind, in mating two birds to produce a certain effect—although there may be an art. In any case the expression is mere clap-trap, and in all probability the self-called scientific breeder mates neither scientifically nor artfully enough to get better birds than the exercise of a little commonsense and observation will secure for anyone who invests in sound and high-class stock birds.

In mating birds for breeding purposes two principles have, as a rule, to be regarded. One is accentuation, the other is correction. We wish to accentuate the good, we desire to correct the bad. In both lines the acknowledged influence of descent, called "prepotency," must be accepted as a governing factor. Prepotency means an overpowering influence exerted on one side of the mating towards a certain effect. There may, of course, be "cross prepotency"—that is to say, one side of the mating may hold a commanding influence on one point, and the other side a commanding influence on a different one.

I will illustrate the working of the principle thus. If I wished to correct a very faulty comb in a breeding cockerel I would mate

him to pullets which, while possessing the other features I desired, were prepotent in the matter of correct combs. In such a case prepotency would come with a succession of correct combed generations, and be accentuated by each. Every generation fixes more firmly the features common to both it and its progenitors until you get a bird so strong, so prepotent in that particular feature, that it can be used with confidence to correct faults existing in the same feature in one of the opposite sex.

I have taken the comb as an example because it probably occurs most often, since the cockerel with comb properly proportioned for the show pen has too much for the breeding pen, and must be corrected. If it be merely a matter of loose-combed pullets, or large-combed cockerel, a single mating has been sufficient in my hands to produce the proper effect; but if one plays with such things as side spikes or sprigs there is no saying what the effect may be; I have seen them reappear after three generations.

Text-books, as a rule, tell you that the male bird has greater influence on this feature and the female on that. In my experience that is only so when the strength of the bird's breeding lies so. In short, if he is prepotent in that respect. Thus we are told that the male bird has the greater influence on head points and colours. But I have bred absolutely correct combed cockerels from an over-combed cockerel mated to small-combed pullets; and I have out of the same mating had pullets with loose combs. I have also bred perfectly combed pullets from a sound cockerel and hens very loose and large in comb, while the same pen produced faulty combed cockerels and birds weak in particulars in which only the hens had been weak.

It is for reasons like that that I refuse to accept so-called "scientific" breeding. Science suggests exactitude, and that is just what nobody has yet been able to secure in fowl breeding. You will often get one class of chickens from your early eggs, and something essentially different from your late ones, all out of the same pen. For that reason I incubate every egg out of a pen mated to my best. The bird you are trying to breed may not come in the first, nor the second, nor yet the third month of your hatching, and the man who either sells his surplus eggs or discontinues hatching after a certain date has not exploited his pen to its fullest. According to the "scientific" breeder all these chickens should be of a level excellence, else his term is meaningless.

The royal road to successful breeding is to secure two perfect specimens of opposite sexes and to mate them. If both are from sound stock, and not mere "sports," the result must needs be a fair proportion of nearly similar birds. Nature, however, is never exact, but often irregular—which accounts for the ease with which we have raised so many different breeds from one parent stock—and fluctuations must be expected and allowed for.

But I have never yet seen or heard of a perfect mating in poultry breeding. Fashions change in poultry as in dress, and the bird which was or would have been an almost perfect black or buff

Orpington five or six years ago could not probably get more than a "commended" card in a leading show to-day. I have bought out of £2 selling classes birds to breed as good, I, a year or two before, had spent forty pounds and failed.

We never shall reach perfection in breeding Orpingtons, or, if we do, it will be a chance effect—fugitive and unfixable. Such, perhaps, was the famous Partington black cockerel which was never beaten, and which, as a cock, was bought at the sale of the late Mr. Partington's birds for £150 by Mrs. J. Wilkinson, late of Carnforth. He was regarded as a perfect Orpington then, but he never gave us one like himself, and I am of the opinion that with the present reversion to the "club" type of bird he would not now be considered perfection.

Failing the mating of two perfect birds, our efforts must be directed towards obtaining a cock or cockerel combining what we consider to be the more essential features of our line. I say cock or cockerel simply because the male bird is numerically and in himself one-half of the pen, and must, therefore, be the most carefully considered.

Before leaving the question let me point out that it is easier to secure a reversion to a fault than an improvement from it. If the male bird has a certain distinct fault no hen or pullet with any leaning that way should be mated with him. Even then it may not be possible to avoid it, for the influence of prepotency comes in to make or mar our efforts.

If possible, the main feature desired should be present in males and females too. Size is a case in point. To attempt to obtain size by mating a big cockerel with small or medium-sized pullets or hens is almost certain to result in failure. Infertility is more likely to ensue, for big male birds require big females.

CHAPTER IV.

MATING FOR SIZE.

If big birds are mated it may be taken for granted that size at least has been secured in a fair proportion of the progeny. I have obtained very satisfactory results from mating a medium-sized cockerel with big hens and strapping pullets, but he was from stock much larger than himself, and he had great substance. The mating of equally big birds sometimes leads to comparative legginess in the offspring, if great depth of body is not a characteristic of both. The mating of a massive low cockerel to big strapping pullets has with me yielded splendid results, as has the leathering cockerel put to low set, big-framed hens. But the mating of massive birds on

both sides is certain to be best. The offspring will vary a bit both ways, but the best will better than is likely to accrue from either of the other variations. I don't agree, however, with mating very low set birds, however big in body.

Theoretically, an Orpington's legs cannot well be too short—if the body is big enough—practically they can, although they seldom are. Unless you maintain a sense of proportion in the framing of your birds you will not be able to strike the eye with the full sense of your success, while your failures will become depressingly apparent.

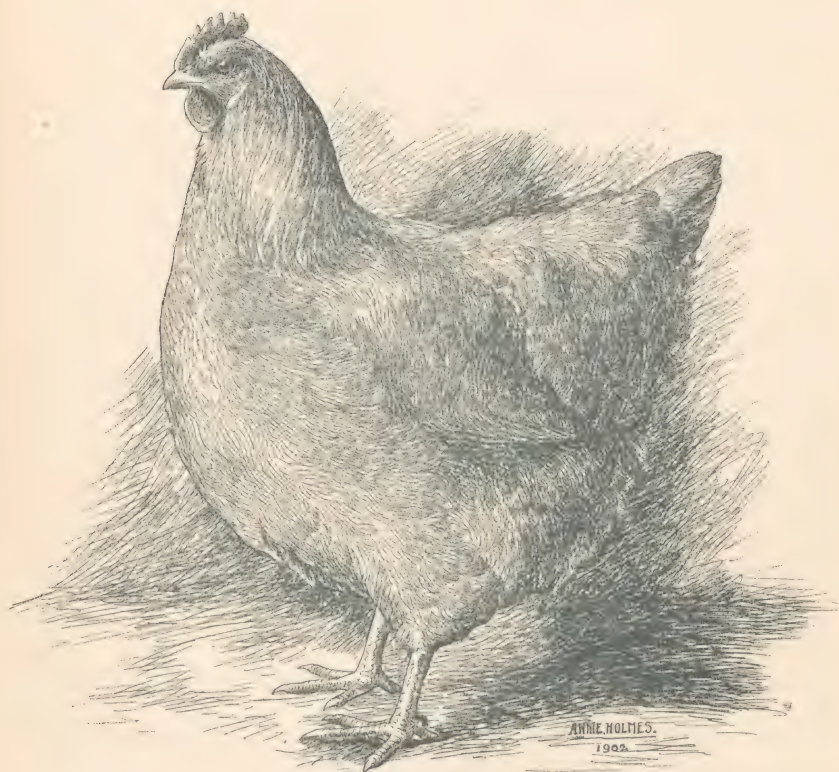
You must, in breeding big birds, give them "something to stand upon." That is to say, you must not endeavour to carry a big body on stunted legs. A very short-legged cockerel, or one with a tremendously low body, should not be mated to extremely short-legged females. Phenomenal features of this sort are best used for corrective purposes. Otherwise the result may be a good lot of breeders, but none to take first place in high competition at shows where symmetry and proportion decide the verdict.

The sense of size is not quite apparent in a show pen unless it be accompanied by proportion. And remember that the bird which looks a triton amongst the minions of your own yard, falls back very quickly into the commonplace when it is placed amidst the pickings of other breeders' stock—such as show entries are.

This seems a convenient point at which to warn a young breeder from expecting too much from a low-legged massive hen which he has bought. I like to get my breeding stock young, for I know that as many a slim young maiden develops into an obese middle-aged lady so do some leggy pullets swell out and let down into typical show hens. These are the sort which may possibly give you a good show cockerel but will seldom satisfy in pullets—for like begets like. It is a hen of this description which should be mated to a massive extra low cockerel.

If you wish to breed big show pullets—and who does not—see that your hens have been big low pullets themselves. What the mother has been the daughter will very probably also be—if not corrected or improved upon by mating with a male whose females have been better or bigger. I am a firm believer in the influence of the female side on the female line—all things being equal. I am also a firm believer in the big hen theory. All other matters being even, the hen, in my experience, has exercised the greater influence on the size of the progeny. I have mated an experimental pen, including a big pullet sister to a smaller pullet of different conformation (also running in the pen) put to a big and big-stocked cockerel. Every pullet out of the big mating was as big or bigger than the mother, but every pullet from the smaller was little if any advance in size on its parent.

I have in my callow poultry days mated a strapping big cockerel to ordinary hens and pullets, and never got a bird as good as the father, while the tendency in the pullets was to legginess rather than size.



MR JAS. HOLMES'S BUFF ORPINGTON HEN.

Winner of 1st and Silver Serviette ring, 1900.

1st and Fifteen Guinea Challenge Cup, 1902, at the Buff Orpington Club Shows.

When mating blacks, at least, never lose sight of substance. Substance will redeem the smallest specimen. I never kill a big-boned cockerel, however small. Somebody who knows something is willing to take him from me. I never yet saw a big-boned heavy framed pullet that was not a good breeder irrespective of size. A big pullet deficient in bone and substance is almost certain to throw very ordinary, if not decidedly leggy, stock, unless wonderfully well mated. A smallish pullet of great substance will lift the weediest cockerel's stock out of the common, on her side at least, if she comes of good stuff.

Don't, however, mate squat birds under the impression that you are securing "club type." The club type Orpington is a bird moulded in proportions, such a proportion as you quickly appreciate by visiting a leading show and following the judge's awards with an inquiring and absorbing mind. Although the standard insists upon "short legs" the term is merely comparative. You may find the first prize cockerel with a leg half-an-inch longer in shank than the third prize bird. But you will probably also find that the longer leg looks shorter to the eye, because the bird it supports has greater size and substance. It is this proportion which so deceives the novice, that he looks at the first prize pullet and remarks to himself, "Well, that isn't a great one. I have something very nearly as big at home." And only when he ventures into the show arena and puts his bird into direct contrast, is he aware of the magnitude of his error.

CHAPTER V.

MATING FOR TYPE.

IN the matter of type the principle of prepotency may become so powerful as to defeat remedial measures in stock long neglected in this particular. It is for this reason that you often see half-a-dozen different types of bird bred from the same pen. Where the prepotency of the male bird has asserted itself the stock will take after him, and *vice versâ*.

I have put heavy true-typed hens to a smart, stylish cockerel which failed something in breast, carriage, and bulk, and it was remarkable how he practically degraded all the stock in the same particulars. Again, in the struggle to obtain size, with a perfection of shape, I have put smallish but elegant and typy pullets to a large cockerel whose chief recommendation was his size. The result generally was a reproduction of the pullets, simply because they came of a strain bred to type for generations. In cases where the cockerel asserted himself the type was so altered that it was

difficult to conceive that the breeding was identical with the others.

These and similar experiences lead me to assert that the laws of breeding are as inexhaustible as the moves of a chess board, and they possess for the enthusiast much the same fascination. They also lead me to assert that to deal with any bird simply on its appearance is about as likely to yield success as is gambling. You may hit it off, and you may not—that is, of course, assuming that the bird is of unknown strain. It is imperative that you should know something of the antecedents of your stock, or you may find yourself poorer in pocket and reputation at the finish than you were at the start.

Remember I am speaking now of type, not feather. I have generally found it reliable to accept a bird on its own feathering. Thus, a good pure buff pullet will probably yield you good pure-coloured chickens if you mate it well. A brilliant green hen will give you brilliant green chickens if you do not overpower her ability to reproduce by mating with a bronze or very sad coloured cock bred from similar stock.

In type, one looks to secure a broad-shouldered, short-backed cockerel, deep from saddle to shank, carrying his breast well in front with squared shoulders, as though conscious and proud of his good looks. The back should not slop downwards to run into the saddle, but preferably rise somewhat, or at least be level. But in the best specimen of Orpington, as in the best bred hunters, the shorter and broader the back the better.

In cocks and cockerels the flow of the neck hackle should be continuous from the end of the comb into the back—something like the outline of a shallow swan neck. It should swing on to the back almost at the point where the saddle commences to form. The saddle should be full, broad, and broadening as it rises to run into the tail. A broken or overhanging saddle is a disfigurement, as is a falling away in neck hackle as it runs on to the back—a characteristic of some present-day strains.

The tail is a very important member, and a really good tail is an exception in both blacks and buffs. There should be neither too much nor too little, but just sufficient to balance the contour of the bird. It should not be too pronounced in altitude, nor too narrow in feather. In no instance should it reach the same height as the head of the bird. In this respect the use of the description, "U-shaped top contour" is misleading, because it argues the same altitude in the tail as in the head. Such a bird would have to be very short-tailed and massive to be at all taking to the eye.

When the "club" type of bird was first fixed the U back was aimed at in order to secure a short cobby type. But it has been modified to a very considerable extent, and the U does not now start with the bird's head. It is also shallow and widened to the great advantage of size. As now aimed for, it carries a longer, but not a larger backed, body; it permits so much greater depth and mas-

siveness to be secured, that while the club standard tells you that the standard weight of a cock is 8 to 9 lbs., hens 7 to 8, birds of those weights wouldn't get a card at a Dairy or Palace Show unless extremely good in other points. No breeder would give you half-a-sovereign for an 8 lb. cock, no matter how sound. You must get your cockerels into a leading show at or about 10 lbs., and your cock at 11 to 12 lbs., or your bird will be described as "not enough of him."

I have handled a cock in the Crystal Palace Show scaling 13 lbs. I have sent out a hen weighing over 11 lbs., and I have bred pullets which were 10 lbs. in their first lay. These were all blacks, for in buffs, although a very marked advance has been made of late the lack of the true Orpington massiveness in these makes a 10 lb. buff cock a good sized one. I have heard of but never handled a 12 pounder.

In both cockerels and pullets there should be no falling away from beak to shank, as one often sees in some winning buff males. The under contour of an Orpington is not exemplified in the letter Y. The bird's breast should begin to swing forward before the wattles are cleared. It should continue in this curve until well below the line of the saddle, when it should turn in to gather the leg fluff without any distinct break in the contour line.

A bird of that type, looked at from the front, has the appearance of a rounded square, out of which the neck pillars in a taper to carry a neat head, while the thighs fall down in two wide flounces of sheeny fluff to take in thick, short shanks, set fairly wide apart, and finishing in strong feet, with well spread toes.

In hens and pullets the modern type decrees a modification of the U-shaped back, which only the specialist judge seems to be aware of. The "all-round" judge invariably gives the shortest-legged, shortest, and most cock-tailed hen the preference, whereas the fashionable type is one in which the neck hackle is full, swells sweetly into a short, broad square back, and immediately commences to spread out and rise into a full cushion, out of which the tail feathers no more than peep. The total rise of the latter is not quite so high as the head, but it is proportionately greater than in the cock's sickles. There should be nothing to break the contour of the body at any point when taking a side view. No tail feather should obtrude, no thigh show through the leg fluff. There should be one graceful sinuous line from comb to beak, taking you as near the ground as possible without giving the impression of dumpiness.

At its extremity, the tail should swing out into a curve just like that on the breast, and similarly tuck into the tail coverts, curling inwards, and the leg flounces, thus giving the body a massive and almost rectangular look. The under line should not dip behind. In both male and females open tails are to be avoided. The hen feathers in the cock's tail should lie together quite closely, and the sickles should not cross. The coverts should curl inwards,

and cluster closely, so as to give the bird a finished appearance when viewed from behind.

Looked at from the top, as the bird is picking up grain at your feet, the back should be a slightly modified oval, a trifle broader across the shoulders than at the saddle, the tail tapering neatly away to a point. That, so far as words can serve me, is a picture of the perfectly-typed Orpington. When you can breed, raise, or buy a bird of that kind of the weights I have mentioned, unfattened, you can, with confidence, put it into any show. It represents the present-day ideal, and how far the actual and the ideal have been assimilated by the breeder may be judged from the various illustrations of noted winners which I have secured to illustrate this work.

From the foregoing the great importance of the cushion will be easily seen. It is almost impossible to obtain too much cushion on an Orpington, so long as you can give the bird backroom to carry it. In some strains of blacks, insufficiency of saddle width, or a pinching in of the flights when the wings are folded, causes an ugly, broken crest or ridge along the centre of the cushion. If the back is broad enough, or the cushion not over developed, this tucking in of the wings still constitutes an undesirable blemish, as it causes the cushion to rise on the back like a ball, and so breaks the even run of the back and body contours. In the cockerel the corresponding feature is an overhanging saddle.

In cockerels aim at having a very full neck and saddle hackle, lack of this gives a bird a straight and often mean-looking neck, or causes him to appear narrower behind, and lacking in type. A full neck hackle emphasises a short back, and minimises the effect of a long one. A full saddle hackle gives a bird a cobby appearance when the bird is properly proportioned, and even if the bird is long-tailed it builds up the contour to take the tail in such a way that the sense of disproportion is almost corrected.

Some strains—in pullets and hens especially—seem to raise their neck hackle in a sort of ruff, falling away from the wattles in distinct creases. In others, the breast and stomach feathers appear ridged as in the cushion, giving the birds a “keeled” look like some ducks, which is a fault some judges strenuously object to in a show pen, and which others, who rely on the club standard as their guide, pay no attention to. Personally, I regard it as a fault, but not a very great one, as it generally accompanies size, or has arrived through a big strain.

A fault of a more generally decried nature is a loose crop. This, too, is a characteristic which one looks for in some waterfowl but dislikes in an Orpington. It has to be guarded against in purchasing birds, for it is transmittible, and it gives the bird an appearance of massiveness which, if the fault be absent in the chickens, will, of course, entirely alter their appearance.

In legs I like a clean, unwrinkled leg. Some strains have a peculiar pucker in each scale, as though there is a feather lying underneath ready to burst out. Tests will show that there are

none, but the pucker, I think, shows that the strain at some previous period were feather-legged, and precautions should be taken accordingly. Those kind of legs in blacks are seldom the fine black we like to see, but rather a greyish-black ready to turn into blue on the first moult. Also, strive to avoid the shank which is narrow to look at from the front, and broad only on the side. The most becoming leg is one of the least common. That is one in which the bone is tapered slightly as it runs down into the foot, and suddenly expands to make the junction. The most common, and quite good enough when you can get it thick enough, is the round shank, but—let it be clean.

It seems to me almost an inversion of things that buff breeders and judges should strenuously bar feathered legs in the show pen, while some black breeders, and too many judges, regard feathers as a disqualification only when the specimen is otherwise poor. A feathered-legged Orpington is a misnomer. Still, I will admit that I have found a feathered-legged hen occasionally a very good breeder, but that is, of course, when she has come from clean bred stock, and has size or colour, or both, to recommend her. One will often get a "throw back" of this sort which is worth persevering with, but it requires the most careful mating with a cockerel whose legs are unimpeachable.

Avoid a "gay" tail in either sex, or a bird badly overtailed. The variety judge may give you a score on such a bird, but the specialist will discard you. The club type of bird does not necessarily embrace a tail, big or small, cocked up at right angles to the bird's back. As likely as not, when bred from, and certainly if mated to a similar bird, the result will be squirrel-tailed birds. Keep the tails of your pullets down; you will find them rising quite enough on their own account without breeding for it.

A wry tail is, of course, a point of disqualification, but some judges treat it as they do feathered legs in blacks. If the bird is an otherwise good one he gets the benefit of an often assumed doubt. Needless to say, no bird with a wry tail should be bred from unless as an experiment; neither should a bird with side sprigs or spikes in its comb. These are more to be feared in a cock than a hen, for the cock endangers the breeding of the whole pen, while the hen's progeny can be "chanced."

See that your birds carry their wings high. This is necessary to secure a square back. On no account breed from a bird with a "roach" back or drooping wings; the latter I have found to generally accompany some internal disorder, such as kidney disease.

Below the wings the thigh fluff should cover the hocks in the hens, and in cockerels should just permit the hock to show, but no more. To have too much hock on view is the fault, as a rule, of the bird laconically described in show reports as "leggy." Personally, I cannot have too much bone in my birds. Some breeders seek to have big-boned cockerels, and comparatively finer-boned pullets. For what reason I don't know, unless they like to fatten their

pullets for the market, when, of course, fine bone counts. In the show pen there is that difference between the modern Orpington and the modern Langshan pullet—you cannot have too much bone in the Orpington or too little in the Langshan—in reason of course.

In feet, avoid twisted or bent toes and toenails. They are a disfigurement, and in a cockerel inevitably lead to infertility of a heart-breaking character. If you must breed from such a bird give him big, broad-backed hens.

The head, in the show Orpington, is generally overcombed in males. A good sized comb is required to set off a good sized bird, but for breeding purposes keep the comb down. If you are under-combed, liberal feeding on meat or other stimulating food will remedy that when you are “making up” your cockerels for the show pen. Do not tolerate a weak comb in cockerels, or a loose comb in pullets. Have good substance in both, or you will find an otherwise good bird useless for showing in good company. A pullet’s comb cannot well be too small, and it should be without wrinkles or twists.

A neat head is to be desired in both sexes, but I have generally found that the fine-headed cockerel was a good pullet breeder, and the big, coarse-headed pullet a good cockerel breeder.

In blacks avoid anything approaching a light eye, especially in pullets. A faulty-eyed cockerel can be mated to throw a fair proportion of sound-eyed stock, but the light-eyed pullet is almost hopeless. This, I think, arises from the fact that the eye comes lighter in cockerels than pullets out of the same mating, so that when a pullet shows a light eye it is more certain of reproduction. Faulty eyes can be tolerated in second grade blacks, since the variety judge is, as a rule, very lenient on the matter, but the specialist casts aside the light-eyed one on his first run through for the prize winners. In buffs, the “rock”-eye is almost as common as is the more correct red eye. This arises from judges’ laxity and the breeder’s extremity. All the same, the correct eye for buffs is a red or orange iris.

CHAPTER VI.

MATING FOR COLOUR IN BLACKS.

ALTHOUGH the quality of the colour in blacks is not so all important as in buffs, it is quite important enough to, often rightly, put the smaller specimen in front. This is especially the case in old birds in which colour is somewhat difficult to maintain, just as it is in buffs. The question of colour will, therefore, bear the closest inquiry and discussion.

In blacks there are three general faults to be guarded against:—

Firstly, a dull brown feather which, however it has been produced, is rightly condemned by every judge no matter how big the bird that carries it. It is possible to use pullets of this sort if they have sufficient merit in size, type, and bone to warrant it; but since they require extra bright green cockerels with sound blue-black under colour and fluff—birds difficult to get—or in more experimental breeder's hands a red-hackled or saddle-splashed cockerel, since these invariably throw good coloured pullets, they are seldom worth persevering with.

The next, and more general fault, is a dull black that seems to carry no sheen on the pullets and to bring a bronze lustre on the cockerel's tail. A bird so handicapped must carry great size and type to beat a better coloured bird.

The last—some would put it first—is the objectionable blue or purple minorca sheen with which some of our best typed and biggest birds have been exhibited. This blue does not often extend beyond the back, breast, and wing bow, but sometimes it shows even in the tail coverts and sickles. It is almost as difficult to breed out as the brown tinge, but although it is equally contrary to the standard, I, and very many others, do not (because it gives the bird a more brilliant appearance) class it so objectionable as the brown or lack lustre blacks.

I am inclined to think that blueness is a result of too much colour, that is to say, of breeding too much for high sheen. I think it arose and arises from using red-hackled males in the breeding pens without discrimination. Why I think it a result of excess in colour is that I have noticed a blue cockerel run out in a bright sun for some time, loses much of the blue colour where the sun has got at the feather, while underneath, and where the feathers have overlapped, the blueness remains. Similarly, when such a bird is well shaded the blue often loses its vividness in a subdued purple—which is an excess of blue. The sun appears to draw out the blue to some extent, just as it would extract the brightness of a buff or dim the most vivid green.

A blue pullet—though not a cockerel—often moults into a good green hen; but all the same blue is a great fault in colour and is at times difficult to breed out. If you examine a black Orpington's feather, say from the wing bow, in a strong light, you will find that each feather consists of traversing and alternating bars of yellowish, rich purple, green and bronze green lustres. These vary in vividness and intensity with the general colour of the bird. If the bird appears blue in plumage the purple bar will dominate the others and often run down the shaft as well. If the bird has a dull green colour the bars are nearly equal in strength, but their sheen is subdued. If it has a real satiny green sheen the green bar will dominate and the bronze green will be absent, the purple dwindling away to a mere line.

It is by studying the various strengths of these bars that I hold



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you can best improve the colour of your birds. The laws of colour tell you that the infusion of red into green and blue will turn green into blue and blue into purple. I have never met anybody who has gone into this matter or even noticed this peculiar barring in blacks, and I have gone into it here with an idea of showing that it accounts for the difficulty one sometimes encounters in improving colour. It is obvious that the fact that these sheens or lustres lie in distinct bars makes it necessary to broaden or intensify the green bar only if we want good colour. Now, most black breeders know that the greenest of pullets throw red-hackled or saddled cockerels, and are thrown by them. That fact has led the indiscriminating breeder to assume that a red-hackled cockerel is the proper mating to secure the highest green sheen. But, as I have pointed out, the excessive use of a bird of this description usually ends in a blue or purple cockerel being evolved, and pullets which lose their vivid green to assume a purplish black.

The worst point about the use of a red-splashed cock is that the pullets very seldom indicate it save in their brilliant colour, and, it may be, in a narrow line of feathers at the root of the comb. As it is possible to breed equally brilliant pullets without using a red-splashed bird, the unknowing will purchase a hen of this red cockerel character only to find that the money has been largely thrown away, for the resulting cockerels seldom fail to show red in hackle or saddle.

There are two ways of getting rid of the objectionable purple. One is to breed back to the green, the other to overpower the purple by a sound satiny green which has been secured by true breeding and not infusions of red. The most satisfactory is the latter, but since one must needs know the antecedents of the stock used, it is most difficult at times to adopt it.

To breed back I would simply procure a cock of the preceding generation of the same strain and in which the blue had not appeared. Failing this I would get a cockerel on whose feather the purple and blue bars were as indistinct as possible, even tolerating a sad coloured bird for the sake of the correction, since the result would probably be brighter coloured chickens than the cock and better coloured ones than their mothers.

But the shortest road is undoubtedly through a deep vivid satiny green cock, in whose feather show no trace of either blue, purple, or red. The overpowering nature of this bird's colour is such that the yellow bar is narrowed and the green widened until the blue is almost swamped or pushed farther into the purple.

There is no use mating up blue and bronze birds or blue and brown birds. These require that brilliant green that I have just written of. To improve merely sad coloured birds you may use a red-hackled cockerel if you are content to throw away all the resulting cockerels. It will be cheaper at the start than mating up a good green bird, but in the end it may not. If you have a good blue cockerel which you must go on with, give him green or dull pullets.

All this will, I hope, impress the novice with the importance of starting right in colour. Don't be argued into starting with bad colour unless you have at hand the necessary correctives, and get with it some very valuable characteristic such as great size or sound type. You may be told that the bird is from better coloured stock and will throw birds better in feather than himself, but that is not my experience. There is very little chance of a throw back to anything better than the parent, for feather is somehow not so governed by breeding as are other points in breeding. Still, prepotency does come in, and come in awkwardly at times.

Before leaving this it is necessary to point out that what is known as the "big moult" often changes the character of a bird's plumage. I have noticed that black cockerels that have failed to quite clear the white out of their flights in their first moult often come quite sound in the second. I have also had birds moult out a better colour; but the reverse is more generally the case. Still, I have had a hen so badly splashed with brown on her wings that she could not be shown as a pullet, but persevering with her for her grand type and size, she moulted out a good sound black as a hen, save for a few brown ticks, which, however, did not prevent her winning under several judges. A remarkable thing about this hen was, that all her pullets were quite sound, but the majority of her cockerels showed grey neck and saddle hackles, which were not in her strain, but had been in the male bird's.

CHAPTER VII.

MATING FOR COLOUR IN BUFFS.

NEARLY every buff breeder has his own method of mating for colour, and that so many can differ in procedure and all win at various times is an indication that success is best attained by experience rather than by advice. It also indicates that the line followed with success in one strain may not yield equal results with another, and so when a good mating is secured it should not be lightly departed from or parted with. At the same time it is to be noted that these differences in method simply go to secure differences in feather tint and not in colour or in sex.

The first thing that the buff breeder has to decide for himself is whether he desires to breed good pullets, or good cockerels, or both. If he is an enthusiast he will, of course, say "both." In that case, and in the present condition of the buff Orpington fancy, he must be prepared to start with two pens—a pullet mating and a cockerel mating or, in the alternative, a very costly single pen of practically

perfect birds. If he is starting, my advice and that of every breeder who has been through the mill is to go to a recognised breeder of winning cockerels for his cockerel pen, and an equally recognised breeder of winning pullets for his pullet pen. I say breeder, not owner, for the words are not at all synonymous. Let him buy stock birds, not show specimens, and let him buy the pen complete—say, three or four hens and cock or cockerel. His chief care under such circumstances should be to obtain birds with as little white in the cock and as little black in hens as possible. He is placing himself in the hands of the vendor, but he can take such precautions as ordinary breeding foresight will command in providing against tendency to mismarkings which must follow if any colour other than buff is admitted.

That is the shortest road to breeding winners of both sexes that experience can suggest. It may be possible to breed equally good cockerels and pullets from the same mating, but I haven't seen it done well enough to enable the single pen breeder to beat men who keep separate cockerel and pullet breeding pens.

Of course, one with experience can suit his fancy and do well with selections from any and every yard, but the young breeder or the novice had better do as I suggest, and by carefully marking the characteristics of each bird in each pen, by distinguishing the eggs laid by each hen, and by, as far as possible, hatching and rearing the chickens separately, learn for himself the varying effects which are bound to result.

Only by exercising such care and discrimination, and by applying himself to discover how these effects are produced, will he be able to mate and successfully breed for himself.

I know nothing in the range of poultry work more difficult or more perplexing to the haphazard breeder than mating buff Orpingtons. Sometimes Fortune smiles on his careless efforts, but this, only about once in a hundred cases. As a rule, he is a man who seems to buy fairly decent birds and fails to breed anything as good as he breeds from. He crosses strains and runs in cockerel breeding pullets with pullet breeding cockerels, "chances" a mealy pullet because she is so nearly clear throughout, and generally knows merely the surface of the breeder's craft. He wins sometimes when the competition is not keen, and probably that satisfies him that his judgment is more correct than judges who pass over his birds.

The breeding of buffs has so altered within the last few years, and the competition has become so very keen, that it is simply a waste of time and money to endeavour to breed up from stock which is not good enough to show.

If you choose to go round the selling classes at such shows as the Dairy, Crystal Palace, Birmingham, and the Buff Orpington Club Show, you will see birds on sale from two to five guineas, which two or three years back would have won in the open classes at the same shows, and been eagerly snapped up at from £20 to £30

each. It will take years to breed as good unless you start with really good stock, and even then, you must either know what you are doing, or have the assistance of one who can supply your deficiency.

The novice who commences in buffs had better buy a small pen good, as his money can secure, than a larger pen of even slightly lower quality. Everybody who is anybody in buffs to-day is breeding from the best, and to breed birds as good as win prizes in the selling classes I have named he must be prepared to spend £30 at least, on his pen—not recklessly with the man who owns the winning birds, but with one who really breeds his own winners and exhibits winning birds at the autumn and winter shows. I regret to say that there are more pitfalls in buying prize poultry than there should be, and as the novice has no protection or guarantee of fair dealing, beyond the reputation of the man he buys from, he should be very particular in seeing that this is good.

Of course, if a wise selection be made, £50 spent on five birds should give him a better start, but £30 laid out on a cockerel and three pullets is a fair investment and should start the purchaser on the right lines. And having spent his money, he must be prepared to take his luck without considering himself swindled if every bird reared is not fit to go into a show or breeding pen. He must remember that the birds he sees in a show are the pick of the season's hatching, and that they do not represent one per cent. of each exhibitor's raisings. He must reflect that there are hundreds of buff breeders in the country, raising probably ten chickens to his one, and many of them from stock which they would not sell to him. He should also remember that, when the toll of the whole year's breeding is collected, if it has yielded a dozen real fliers of both sexes, and a thousand really sound stock birds, it has been a grand breeding season.

I don't put these things down to discourage the young breeder. If they do that he will never breed a good buff except by chance, no matter whether he tries or not. But it is right that he should grasp the true situation before he starts, or a disappointed ambition may send him out of the fancy faster than he came into it, and probably poorer.

I also state them for the benefit of the many who, spending £5 or £10 with a noted breeder, or £3 or £4 in sittings of eggs, marvel that they have not been able to raise a single winner against the vendors of the birds and eggs.

Purchasers of eggs are quick to impute fraud if their results don't come up to inflated expectations, when the simple facts are, that sittings of eggs sold in this way are never likely—I almost said intended—to produce anything better than decent stock birds; and the man is lucky who gets a couple of good ones out of a guinea sitting of eggs.

If he raises a really good show bird I would feel almost inclined to say that somebody had blundered, for it would be obviously the

most arrant commercial stupidity to sell eggs fit to produce these, even at their guinea a dozen, when a single bird might be worth anything from £3 to £30.

I know that people advertise that they do practice this form of philanthropy, but without intending to be rude, I must say that I don't believe it. And the proof of my contention is, that those advertisers who offer such brilliant advantages to their customers, still manage, somehow, to retain the best chickens, while it is very seldom indeed that said customers can raise a bird fit to do more than win at a small show out of presumably the same eggs.

With that lecture I will go back to the question of mating proper. There are two great faults which should, but do not, preclude the use in a breeding pen of a bird showing either. One is soot in undercolour and the other is mealiness in feather.

I have seen good show buffs raised from feather-legged stock; I have seen winning birds raised from stock touched in various ways, but never a good one bred out of a bird really mealy or with sooty undercolour.

Both faults are very common. As a rule you will find sooty undercolour—which, interpreted, means a smudge of black of varying degrees of intensity in the fluff of the feather, and generally most pronounced in the cushion of pullets—accompanying a rich and taking top colour. As a rule, the mealy bird is clean in flights and good in tail. These circumstances have induced many to endeavour to breed out the taint, but never to my knowledge with success.

Some people hold that mealiness can be caused by incorrect feeding and handling. That, to my mind, is arrant nonsense. Sound feeding and perfect shading will so tone down mealiness in a young bird that it may pass muster in a show pen when at its best. But when the feather fades, or if the bird is run in the open it will generally prove so mealy as to become an obvious waster. Pullets of that sort which have been well fed and well shaded, generally moult out much worse, and may explain to you how it is that so many of your promising youngsters are mealy.

If at all possible, I would exclude from a breeding pen any bird showing any trace of mealiness. It is sometimes difficult for a young breeder to detect mealiness in a dark cockerel, but if the bird be carefully examined in a strong light, his wing bow and shoulder will generally disclose it in its most pronounced form, and the same may be said of the pullet.

So long as a bird's feather is a clear buff, whether it be deep or light, whether its undercolour be weak or strong, or whether it is touched with white or grey in flights, it is probably worth breeding from by somebody, if not by you.

Theoretically, black or white in feather should not be tolerated, and it is possible that in a few years' time one may put it down so. But at the moment, the bird that is not so touched is rare indeed. In its least objectionable form, black appears as "peppering" in

the tail flights of the hen, and in the hen tail of the cock. In its worst permissible form for breeding purposes it comes out as a green black in tail, and in splashings on the wing secondaries. A bird with a black wing flight should not be bred from, unless as an experiment. Some breeders put down white as more objectionable than black, but I don't accept that, and for this reason :—

I have seen sound coloured birds bred from pullets, splashed with white on wing and on tail sickles of cockerel and hen tail of cock, but never as good from pens in which black feathers were present in any quantity whatever. It is undoubtedly true that to breed out black feathers, pure and simple, is easier than to breed out white, for the latter never fails to put in an appearance on a buff's plumage at some period of its life, and is generally to be found present at the roots of the tail sickles in otherwise clear cockerels and cocks. But, as a choice for a breeder or a judge, I think white the more tolerable evil. But if it can be managed, get birds free from both. White or grey splashings on the wing flights of cockerels, however, are difficult things to escape, when everything else is right, and for that reason the young pullet breeder should not be deterred from using a good bird with that defect only. He will probably throw a large percentage of clear pullets and an occasional clear cockerel. It is, of course, best to have a quite "clear" bird, but I have not yet seen one that wasn't mealy.

In cockerels, a very bad fault is brassiness on the saddle and back—a peculiar light metallic yellow fringe on the hackle feather, quickly recognised from the term. It is not always easy to distinguish it when the bird has been well shaded, but in that case the safest course to pursue is to reject on suspicion. Another bad fault which some strains have, is a distinct lacing in white on the breasts of cocks, and in dark buff on the breasts and backs of pullets. When the feather is frilled, the latter lacing frequently turns out to be a thinning of the fringe of the feather, which the reflection of the light causes to appear warmer in shade than is the remainder of the feather. Pullets do win with this defect, but only in weak classes or when other points compensate. Other strains have a fatal weakness in neck feather, which should be watched for and expected. This is a loss of colour underneath, amounting in some cases to a white base to most of the hackle feathers, called "white in hackle." Others, again, carry a light ear, which is more frequent in cockerels than in pullets, but is difficult to breed out, and generally becomes pronounced with age. All these faults can, of course, be corrected, but unless the stock is very strong in other points, it is wisest to stop at the beginning and refuse to let them in at all.

I am not sure that in leaving shaftiness out of that lot I have not erred, for it is a great disfigurement in any buff. It consists of having the shaft of distinctly lighter shade than the remainder of each feather. Even coloured but shafty birds win often enough, but it is a feature to be avoided in your stock. It is terribly difficult

to breed out, as it comes back again and again to worry and disfigure otherwise good specimens. The day cannot be far off when "shaftiness" will be ranked only a point better than mealiness. A point which should not be lost sight of at any time, is undercolour. A good deal of misunderstanding exists regarding this. Every buff feather loses depth of shade from the point where another overlaps it, towards its root the feather becomes fluff and is then lightest of all. The colour of that fluff and of the shaft of the feather is what should be understood by the term "undercolour." The less the change of tint between fluff and feather, and the more the shaft carries its buff into the skin, the stronger the undercolour. Some people reject light-coloured pullets and cockerels whose undercolour is also light, as being deficient in undercolour, when, in point of fact, they have been comparatively strong in that particular. Strength of undercolour is a comparative term. A deep-coloured bird will naturally, or should, carry deep-coloured fluff beneath, and the strength or weakness of that is solely governed by the depth of the top colour of the feather. Of course, very light buffs, especially of a saffron tint, are inadmissible for breeding, but, no matter how light, the undercolour should never be white. White undercolour is a fatal fault, and ranks after sootiness. At the same time it will generally be found that the latter supervenes on very strong undercolour more often than it accompanies very weak.

When we come to consider top colour we have to deal in generalities as to tint, for any variation of shade is admitted by the standard, and the judge selects what pleases him best. But the tendency is undoubtedly towards a soft rich colour in pullets, and a full orange shade in males. Both colours have deepened appreciably of late years, and the warm orange-coloured cockerel is now the accepted show tint, while in pullets light shades are deprecated, and the rich softness of a new sovereign the tint desired.

For breeding purposes, however, the novice should err, if err he must, on having too much rather than too little colour. If a show tint cockerel must be used, he should be put to pullets several shades richer than himself. This will probably provide a cockerel mating, and if pullets are desired the hens must be still deeper in tint, without coming from "red" stock. For pullet breeding, pure and simple, a rich orange-cockerel put to soft coloured pullets, whose breast colour corresponds to the breast colour of the cock, is generally conceded to be the most satisfactory mating. But in all these matters the colour prepotency of the stock will influence results to an overpowering degree. You may get a deep red cockerel from a lemon cockerel mating, or a lemon cockerel from the pullet mating. You are in the hands of Nature, and you must be prepared for anything that she gives you, for you may find that your early chickens are really good and your late ones very indifferent, or *vice versa*. As a rule, the late chickens are best in colour, for what reason, I don't know, unless it is that they generally come from hens which have been retained, because they have moulted out

sound, while those that have come mealy—as very many sound pullets do—have been rejected. In very many instances the improvement in colour in the late hatchings arises simply from the fact, that their adult plumage comes to them when the sun has lost much of its power to fade and tan the feathers. These late hatched pullets, however, are rather risky matings, as the birds are seldom as big or so robust as the March and April hatchings, and while they may yield fertile eggs in February and March, must be well mated to a strong cockerel to ensure healthy chicks being raised from them.

When the primary question of feather colour is settled, and if any choice remains, it is well to point out the difficulty of breeding out a yellow or “rock”-eye or red legs. The correct eye has a dark iris with a rich crimson circle round it. In the “rock”-eye, so called, because it is the standard eye in buff Plymouth rocks, this surrounding circle is yellow, and quite a large proportion of our winning birds show in this way how the buff rock has been called upon to help. It is because this knowledge, that any suspicion of yellow in legs, feet, or beak must disqualify a buff Orpington. White is the necessary colour in these particulars, and if the brown tint of horn shows in toenails and beak, it doesn't greatly matter, but it is a greater objection if it should show, as in some strains, on the front scales of legs and feet. Still, those are minor matters, compared with red legs. Sometimes this latter fault originates in permitting the bird to rough it in all weathers, but it is generally inherent and should be avoided as far as possible, for it is an obvious disfigurement.

CHAPTER VIII.

HANDLING OF BREEDING STOCK.

THIS is one of the most important, most eagerly discussed, and most differed upon topic in the whole range of poultry economics. The chief reason for difference of opinion is that every breeder, or poultry-keeper, speaks from his own experience and his own conditions. A moment's reflection will show how these things breed contradiction.

To start with, the man who raises Leghorns for instance, will never encounter many of the troubles which beset the Orpington breeder. Nor will the Orpingtonian have to grapple with some matters which closely affect Cochin and Brahma breeders, while the man who simply keeps his hens as “egg machines” will seldom be troubled with any of the dozen worries which beset the man who breeds for feather and form.

Then, again, climatic differences step in to modify these diverse conditions, so that the troubles which afflict the Orpington breeder, located in Northumberland or Lincoln, who desires to get early cockerels for the autumn shows, may rest very lightly on the man who lives in warm Cornwall or the Isle of Wight. While the poultry-keeper whose place is situated on the dry, if hot, soils of Surrey and Hants knows not some of the worst winter troubles of the man cast on the clays of Essex and Lincoln.

And quite apart and distinct from these influences, experiences differ, because breeds and strains of the same breed differ in constitution and character.

As I have said in an earlier chapter, it is a general rule that the more highly bred one's fowls are, the more delicate they become in constitution. Sometimes this weakness comes from reckless in-breeding, but, in any case, it will generally be found that your best pens will return you the lowest percentage of healthy chicks, and that the eggs from heavy birds will contain a larger proportion of infertiles than those from lighter and more active breeds.

This is particularly the case when early breeding is attempted; and, since heavy and big birds take longer to mature than small ones, it is a matter of necessity for the Orpington, and especially the black Orpington, breeder to start hatching as soon after December as he can induce his pens to supply fertile eggs.

I have said that some strains are less healthy than others. I say so out of my own experience, which embraces handling most of the leading Orpington breeders' stuff in this country. One year not long ago I invested in about a dozen settings of eggs from various well-known exhibitors in order to obtain some stock birds. Out of about four settings from one breeder I eventually raised three birds, one of which only was fit to breed from, and that one—a pullet—never gave me a fertile egg. Out of another three settings, from another big breeder, I rose six chicks, one of which—a cockerel—I sold for £5, and the remainder, after great trouble in rearing through all the ills that chickens are heirs to, did me grand service in the breeding pen when I struck the right mating, although their stock, as stock, was very delicate. Another three settings yielded me about ten chickens, few of which I could use; while three settings I had got late from yet another, and a lesser known breeder gave me, with some badly mismarked birds, a couple of pullets and a cockerel which I regard as among the best breeders I have ever had.

My own stock that year was very verile, and infertility was practically unknown, while the chicks were as hardy as sparrows.

Next year, when I had drafted in the pick of the birds from these settings, and headed them with a cockerel purchased at the executor's sale of a noted breeder, I had three months of such infertility and general breeding worry as nearly turned my hair grey. Then when warm spring weather arrived my troubles waned, until, in May, nearly every egg was full, and every chick a "thruster." But the latter result was only arrived at after weeding

out of my pens some otherwise fine pullets from two of the four breeders' settings whose constitutions were obviously diseased so much as to affect their breeding powers.

Some of the weeded-out birds died, and *post mortem* examinations revealed almost in every instance liver and kidney troubles of a hopeless nature.

I proved to my own satisfaction that in two of those four strains the best and biggest specimens were constitutionally unsound, while the smaller birds, evidently from other matings, were all that one could desire in point of health.

One of my reasons for relating those harrowing experiences is to show young breeders and sceptics that because they pay a big price for a setting of eggs to a noted breeder they must not expect too much, nor must they call him a swindler if his eggs are mostly infertile, or his chicks turn out mismarked or unhealthy.

Breeding from the same stuff, my rate of infertility was quite equal to that which had so worried and annoyed me when I was hatching other people's eggs, while the difficulty in rearing the chicks was nearly as great, although I had carefully dieted the parents to induce more stamina.

So far as my experience goes, the desideratum in handling Orpingtons at breeding time is to keep them dry—not merely in feather but under foot. Let those who will give their fowls half-acre grass pens, I will be quite content, from December 1 to March 31, if I have a well-built, fairly high lean-to house under the shelter of a south wall, giving to each pen of seven birds a dry—a really dry—run measuring 12 ft. by 9 ft., the floor of which is covered six inches deep with well-broken peat-moss litter or chaff. If I can have a good grass run in addition so much the better; but the dry, roomy, covered run is the main thing.

I have found that birds confined in runs of this description are brighter, more active, and more healthy than when an ordinary house, with shelter underneath, is placed in a grass field. On bright days the grass field is ranged, but, generally, the birds hang about some of the corners, and do not really travel much, while in rough weather they look and, I have no doubt, feel miserable, going out in the wet in sheer desperation of the ennui of the cramped shelter.

Scratching sheds in addition are all right, but unless provision is made to prevent rain storms flooding them they are mere fair-weather contrivances. Once let a run get thoroughly wet in winter and you will not get it dry again until the warm weather returns. And few things in my experience are so bad for fowls as a wet or damp shelter. It would be almost better to provide them with none.

In dealing with all heavy breeds of fowls, whose habits are only active in genial weather—such weather as seldom comes to us in our breeding season—it is obviously better to keep them merely comfortable all the time rather than happy and miserable by fits.

Wet is the great enemy. To it one must ascribe the prevalence of liver and kidney diseases in fowls. These, in my opinion, arise from chills and colds more than the unsuitable feeding which food experts and specialists harp upon.

These good people have done a vast amount of good to poultry-keepers and poultry by indicating the proper lines of diet, but they become too didactic as they follow out their theories, and they lose in reputation with representative breeders by advancing and sticking to theories which fly right in the face of experience and successful practice.

To judge by some of their treatises and advice, to properly diet a fowl is a difficult and somewhat expensive thing. Now, I contend that, given a healthy fowl, the difficulty is for the breeder to improperly feed it so long as it is not over fed.

I may say here that I do not condemn these theories without having tried them. For nearly a whole season I followed a scientific dietary for my birds, chosen by a well-known and undoubtedly clever expert. The succeeding year I left science and went back on my own, guided merely by my experience and an appreciation of the valuable line afforded by the theoretical value of various feeding stuffs. I employed foods utterly condemned by the expert as dangerous and scientifically wasteful, and one result was the largest birds I had ever bred, and, on the whole, the healthiest.

I do not mean it to be taken that I did better because I departed from scientific and expert dietetic lines, but simply that I did not do any worse, and that if one starts with healthy fowls it is not necessary to diet them like convalescent patients. And if they are unhealthy, the proper process is to get them healthy again, or throw them out of your yard rather than worry over scientifically balanced diets.

I do think, however, that when birds are confined, or are handled and bred as prize fowls are, that a constant change of dietary is necessary, and that it is chiefly through a neglect of this salutary rule that a predisposition to disease of the kidneys and other organs is set up.

A time must come to a fowl, as to a human being, when it goes "off its feed." To a bird which is given an eternal round of one sort of diet this is likely to come more often than to one the food of which is varied. A bird off its feed does not eat, and is so quickly reduced in tone that if it should happen to catch a chill at that time the seeds of future liver or kidney trouble are very likely laid. And nothing will set up a chill sooner than a run which is not dry, and in which the despondent bird mopes until it becomes really ill.

By changed diet I don't mean a day-to-day variation, but a change which fits in with the season of the year. In summer, for instance, it is obvious that with grass, and insects, and warm airs to keep it happy, that a change of diet need not be made so often as is advisable in winter. I have gone through from the beginning of March

to the end of July with the same morning feed, and without a change in grain, and my birds were healthy, happy, and thrive.

But I would not dream of doing that once the weather broke, for with broken weather comes care in prize poultry-keeping, as in many other matters. You want something that will help their digestion when they are not inclined to take the exercise which made them healthily hungry in summer. And when you are handling big birds, and birds which you desire to grow and yield bigger still, you cannot afford to keep them healthy by the convenient method of short rations which is the principal reason for the healthfulness of farm-yard fowls. Half-fed birds have to be very ill-used before they go really ill, but they will not breed big chickens, or even good ones. You get size and colour in black and buff by proper and sufficient feeding quite as much as by breeding; one without the other yields no satisfactory result.

It is generally pointed out in poultry books that the advent of winter cuts off from fowls the supply of insects which supply them with so much albumen and other matter which meat contains, and so meat should be given liberally. I believed that implicitly until I found that I had healthy and prolific hens which would not eat a worm, but which would gorge on meat. I fed on meat to obtain fertility until I found that I did not get it.

I have, generally speaking, gone through the whole range of dietary devices, so that no possible chance of improving my hatching, rearing, or breeding should be passed by. And the sum total of my experience is that you cannot put anything into the bird to-day which will affect the potentialities of the egg of to-morrow or of next week. That must have been done months before. You can increase egg production by special feeding; but that does not mean that you will get more chickens out of your incubators.

In my experience of breeding Orpingtons, feeding up for egg production reduces the percentage of fertility, and I would rather advise a different course, which is to feed the cock by himself in the morning on generous diet, with a fair proportion of meat, while giving the hens a less stimulating and not too generous morning mash. Unless this is done the cock, as a rule, does not get his share of the meal, and certainly not his share of the meat, for laying hens are terrible gorgers, and would eat themselves ill.

But whether this line is pursued or not, I do not advocate too much dependence on meat-meal, which is too often merely ground greaves. I have tried meat-meal, and I have tried refuse butchers' meat scraps and bones, and I would rather have one shilling's worth of butchers' scraps than five shillings' worth of much of the so-called meat-meal.

It is all very well for the dietary expert to point to the analytical value of the dry *versus* fresh meat weight for weight. The analyst can produce in condensed milk all the analytical constituents and chemical properties of cow's milk, but the child fed on condensed milk will not show the scientific or natural results which the child fed on cow's milk does. And it is the same in all such things.

Meat-meal in its way is not a bad thing, but it has lost something which green meat contains, and it should be used sparingly.

If used continuously it should be accompanied by periodical doses of epsom salts to clear out the bird's system—likely to become clogged with a too nitrogenous diet.

The liberal use of meat “fires up” young birds. It gives early laying, soft-combed pullets, and precocious and big-combed cockerels—and those disabilities quite discount to my mind the benefit obtained in regard to colour—which it certainly assists.

The main thing in handling breeding stock is to prevent them from becoming fat. It is difficult to do this, as Orpingtons, especially when they are hens, will over-eat themselves, and then go and roost off the effects. Meanwhile the cock or cockerel, as a rule, will be underfed, and so, in order to give him a full meal, the novice is tempted to allow the hens too much.

It is far better to separate the male bird, and feed him before letting him into the run in the morning. Fatness brings infertility and weak chickens, and it is far better to underfeed than overfeed.

Of course, if breeding birds are not properly fed the proper proportion of eggs are not obtained. But, as I have said, it is quite as big a mistake to attempt to force egg-production, for that invariably ends in a greater degree of infertility or weaker chickens.

Those who wish to rear prize fowls must be prepared to let Nature take her course, and merely see that the breeding pen is kept healthy. I do not agree with the usual hot morning feed in winter. This is generally made up just before it is served out to the birds. It is generally given them too warm, and I think conduces to colds, and chills, and fatness. The steaming of the meal during the night swells it, and makes it more easily digestible than is the hurriedly mixed morning mash. Hot morning feeds go towards fatness and forcing hens to lay, and that, as I have pointed out, is not really a wise thing for a breeder, as apart from a poultry farmer, to do.

No matter whether birds are confined, or have a free range, I do not advocate more than two meals—the morning mash and the evening grain. But I do insist on diversity, not from day to day, but from fortnight to fortnight, or week to week. If you change from day to day there is really no change—there is a mixture. If you feed for a fortnight the bird has, at worst, just began to become dainty when the change arrives.

There are so many different methods of soft feeding that I do not propose to upset the custom of the reader's locality, but will merely give my own:—For soft food I use biscuit meal, middlings, barley meal, ground oats, malt culms, potatoes, green stuff and meat. The meat I keep for severe weather, or when the hens are in full lay, or have laid heavily, or are in moult. Biscuit meal I use very sparingly, because it goes through a bird very quickly, and with a two meal regimen should, for that reason, only be given in mild weather—a hungry empty-cropped bird is a bird open to catch anything catchable.

One morning meal may be composed of equal quantities—in dipper, but not by weight—of ground oats, middlings and malt culms, and about half as much as the three combined in weight of potatoes. This is a cold weather feed, for the potatoes go to fuel the system. I mix the meals and culms, boil and mash the potatoes in their own liquor, and if the weather is wet and disagreeable I occasionally dust a handful of the following powder among the dry meal:—

Equal parts aniseed, ginger, liquorice, fernigree, gentian and carbonate of iron, all ground and mixed. If you buy “veterinary” spices, they will be quite strong enough, and you will find them much cheaper than advertised preparations, for the same purpose.

If dry runs are provided, not much than this tonic will be required; but if there is any sneezing or appearance of trouble in your pens, use it every morning until an improvement is secured. There is nothing in the mixture to get on the bird’s liver as so many of these “condition” and “poultry” powders, containing cayenne pepper, do.

Some people favour locust meal, and some give various advertised preparations, but the happiest breeder is he who does not use, or need to use, any of them. At the same time I do not set my face against them in and out of season, as some affect to do. I have found the above powder very beneficial all the year round, for young stock in particular.

Another morning feed can be made up with equal parts middlings, barley meal and malt culms, and in this I would sprinkle meat-meal, if it is used, or would use the boilings of butchers’ scraps and bones to mix it. I am a constant customer of my fishmonger for all his refuse, preferring it to meat, particularly for show birds, but it will be found safest to use everything of that kind sparingly, or the birds will get dainty and refuse to eat unless they get meat or fish, both of which will force egg production, but may not provide equal fertility when big birds are in the pens.

Another morning feed is, equal parts barley meal, middlings, malt culms, and some potatoes. Into this I pour some raw linseed oil—for potatoes require some lubrication—before the hot stuff is added.

Another is, two parts biscuit meal, and one each middlings and ground oats. And yet another is, equal parts middlings and ground oats. I do not agree with maize meal or maize germ meal for breeding stock, but I boil all vegetable scraps obtainable at any time.

From the foregoing, it will be possible for anybody to keep up such a succession of change in morning diet as will keep breeding pens healthy and happy.

In the evening I ring the changes or oats, wheat, and buck-wheat. I do not feed “mixtures,” I do not feed dari or maize. Maize would be an invaluable feed for poultry but for its undoubted tendency to induce liver troubles in all heavy birds. Some people advocate feeding maize in winter to secure fuel for the

system. I prefer potatoes and linseed oil, for the simple reason that maize goes at once to a sluggish liver, and a sluggish liver arises from lack of exercise or activity—a natural state of things in winter.

If I must feed maize or maize meal, I feed it in summer, or when birds are growing and have a free range and actually do travel about. When they “stay at home” maize is simply poison—and they stay at home in winter only—if they are healthy birds. No matter what the illness may be, I never give maize, for in every heavy breed the liver is generally affected by any other disorder contracted.

If only two feeds per day are followed, it will be found quite easy to induce your birds to eat what is given them in the evening. I have found birds which I have bought would not eat oats or buckwheat, just as others would not eat soft food, because “dragged up” on a happy-go-lucky grain diet. Semi-starvation is the cure, and it should be adopted without hesitation or mercy.

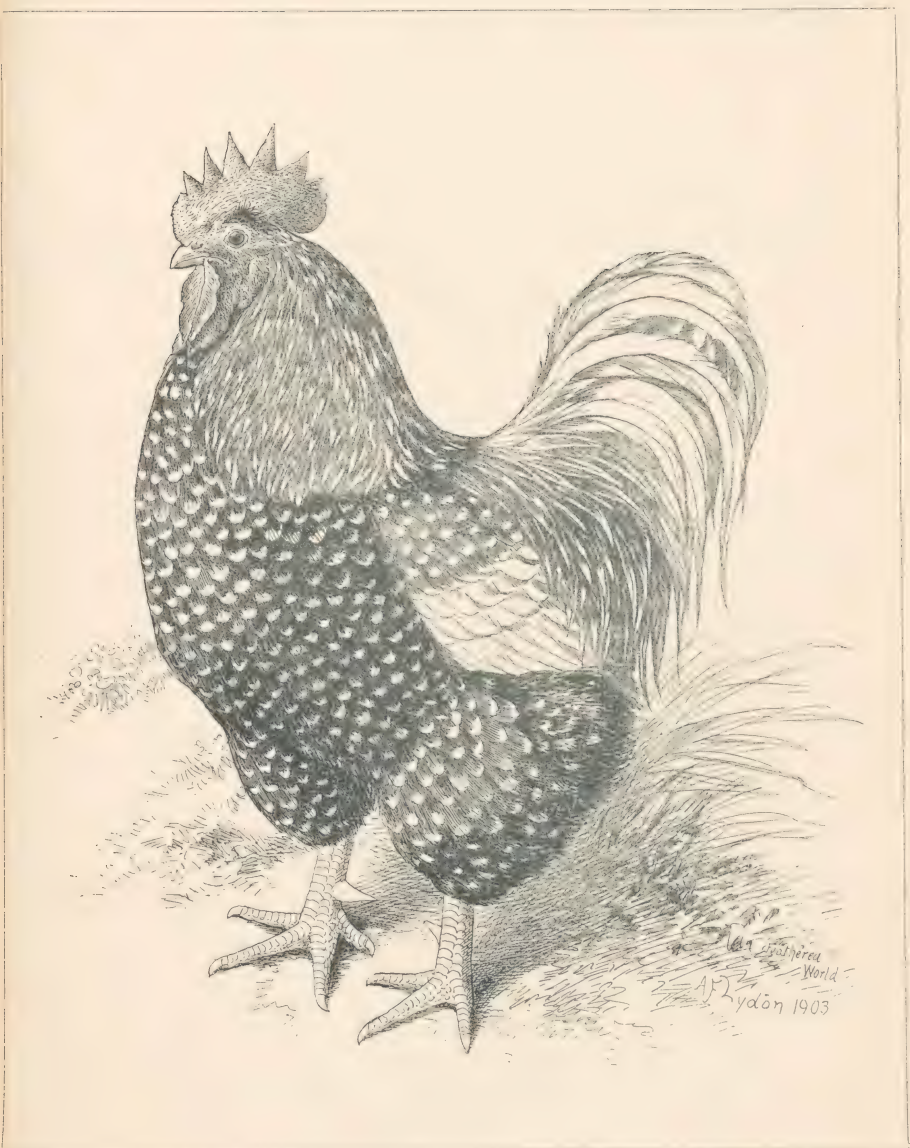
For that reason I do not mix my grains. I give wheat or oats or buckwheat separately, but never mixed. My staple evening feed, especially in warm weather, is oats.

In winter, I fall back more on French buckwheat, and in between I adopt wheat. Wheat and barley, if overfed, tend towards a disease of the kidneys known as “lardaceous,” because it turns the birds’ kidneys soft and white and granular. It seems more prevalent in cockerels, from improper feeding or hereditary taint, than in pullets, but exists often where unsuspected, and causes weak germs, which are put down to defective incubators, and weak chickens put down to faulty brooders or mothers.

When I am feeding my morning mash with barley meal in it, I give oats in the evening; if with potatoes, I give buckwheat. Sometimes I give oats only, sometimes oats and buckwheat or wheat and buckwheat—in which case I give the buckwheat first, and only when it has been cleared away do I give the second course of oats or wheat.

I make a practice of giving all my adult birds a fortnightly dose of epsom salts throughout the year. My dose is a quarter of a pound to each gallon of drinking water, which I allow to remain until finished before giving further drink. In bad weather, in frost, snow, or biting winds, I do not, of course, purge my birds, but I give Douglas mixture each alternate day according to the following recipe:—Sulphate of iron quarter of a pound, dilute sulphuric acid half an ounce, water one gallon. Dose:—A teaspoonful to each pint of drinking water.

Those, however, who prefer to do so, will find the sulphate of iron alone almost as good. It should always follow the epsom salts, even in summer, and a few crystals dissolved in the drinking water, which it will muddy somewhat, will be quite sufficient. In hard frost the birds will relish drinking water slightly warm, and if given before the morning feed it has a cleansing effect.



SPANGLED ORPINGTON COCK.

Keep grit and oyster shell convenient and dry for them, and make certain that the peat litter in their sleeping house has not become damp, for the heat of the birds' bodies may cause it to steam, when colds are certain to arise. I have found it an excellent plan to dry a damp house by filling an old bucket with lighted coke, and suspending it for an hour from the perches, closing up every outlet for the fumes—if a handful of sulphur is thrown on it—are a very satisfactory form of insecticide, as well as drying.

A damp sleeping compartment is a veritable charnel house for birds like Orpingtons or Dorkings, or any similarly heavy bird. For that reason I do not agree with houses without floors, for with peat moss litter to suck up the damp from the ground, caused by the rain falling off the roof a few inches outside, and percolating underneath, and the birds' droppings on top, one would require to change the litter every fortnight in some localities.

A rough boarded floor raised from the ground by some cross-battens will keep out this damp, and if six inches deep of litter is spread it will last for six months if attended to week by week, or, better still, morning by morning.

It is best to buy the peat in bales, as it comes cheaper in that way, and to break it up while slightly damp from transit. If it is allowed to become quite dry, it will be found a tedious and difficult task. The better it is broken, however, the longer it will last.

Don't place your nest boxes inside your sleeping compartment. If you cannot put them in the run where you can see which hen is at nest, and so can mark the egg, have outside nest boxes fitted, and if you do this it would be an advantage to place handy dropping boards under each perch, which could be lifted out and cleaned in a minute or two each morning.

Most poultry houses provided by appliance makers have the perches too crowded together, for big birds the nest boxes are too small, as are the shelter entrances. See that all these are right, for otherwise, you will have your birds breaking their flights in trying to get to perch, and rubbing their tails to bits against the ends of the house or the nest box.

Sliding doors are preferable to hinged doors, and sliding ventilators to hinged ones. Shelters should be as lofty as possible, low shelters are a great mistake. Perches should be of well planed half-round section deal, and should not be high off the ground—big hens cannot hop as nimbly as light Leghorns.

Dusting baths are best when they consist of a separate shed which may be low but which must be turned to the sun. Birds will not dust themselves out of the light, and if you watch them you will notice that they dust themselves most when the sun is out in winter. Indeed they seldom do so else, and for that reason every bird in a breeding pen should be gone over periodically with pyrethrum or insect powder.

Old birds, especially cocks, do not clean themselves to any extent, and since vermin means infertility, quite apart from

anything else, the "pepper pot" is a very necessary adjunct to the breeding pen. For dusting in, nothing can beat sand or road sweepings—not scrapings. And the sand or road sweepings must have been collected and put in the covered shed when quite dry. I have mine put in about August, and in December I scatter some flour of sulphur liberally over it, as a sort of reviving disinfectant. For buff breeds nothing can be better than ordinary builders' sand, which, put in clean, does not soil their plumage.

To show why dusting baths should and must be kept dry, I need only point out that when a fowl dusts itself it forces the dusting medium through its plumage, into the roots and over the skin. This forces the annoying insects to loosen their hold and a proportion are shaken out with the dust.

CHAPTER IX.

"MATING UP."

WHEN "mating up" go carefully over each bird to see that there is nothing physically wrong. Dust well with pyrethrum powder, and anoint the anus with ordinary salad oil, in which carbolic acid in the proportion of 1 to 40 has been well shaken up. If, after mating, a bird shows symptoms of illness, remove it from the breeding pen at once, until the cause has been discovered at least, or you may upset your season's breeding. If it is only a cold, a little permanganate of potash in the drinking water will prevent it spreading. Some people use camphor in the drinking water, but I don't like the practice. The camphor certainly taints the eggs for eating, and I think, causes infertility in hatching if persevered in. It is a good disinfectant and handy, but there are others just as good and less objectionable.

It often happens that when an old cock is mated up he evinces no disposition to perform his share of the breeding scheme. I have seen various remedies suggested, but none is any better than feeding well, warm housing, and separation at night. I have tried the American prescription of *Damiana* for this trouble, but I cannot honestly say that it made any appreciable difference. If it made the cock more active it did not increase the fertility. As a general rule, cocks especially, when they are heavy and large, cannot be depended on to fill their eggs until spring comes in. There are exceptions, of course, but most people will find a cockerel mating essential to very early, that is to say, January hatchings. And such a cockerel should be early hatched and robust. A late hatched bird—and I would call anything after April 30th late hatched—will

give you chickens perhaps, but they will take a lot of rearing unless the hens and pullets are particularly stout and lusty. It is preferable to put hens to a cockerel, but you will be lucky to have hens in lay before Christmas. Pullets which have gone through their first lay are more likely to give you fertile eggs than pullets in their first lay—that is to say, unless the latter have been long in maturing, in which case their eggs will probably be as large as most hens, and in my opinion will be better than those of early matured hens.

Some breeders pay no attention to the size of eggs they hatch from. I do. I have invariably found that a large egg laying pullet is largely made, and yields large framed chickens. The danger with these birds, however, is, that they usually suffer from ovarian troubles.

It is best to mate up before the hens come on to lay. The pen may take some time to settle down, and that process may cost you some clear eggs if not mated in time. Do not mate up very young pullets, however, that is simply waste of time. They will be neglected if not laying, and if eggs are produced they will not be filled. Keep the young ones for a later turn. Be careful to mark, as far as you can, each egg laid, so that, in case of persistent infertility, you may change the hen to another pen, when she may hit it off better.

If you have only one pen to mate, it is a case of Hobson's Choice, and you can exercise no choice or selection. You must, if you have a surplusage of pullets or hens, be careful that none put into the male bird has any fault that he may have, such as a light eye, or a longest back or a gayish tail, or feathered or long legs. Of course, it is best to be free of all these faults on both sides, but some very good birds have in the past been bred from pens of this sort, and while the standard of Orpingtons is rising year by year, the best breeder is he who has gone through the process of breeding from and mating birds which have had to be corrected by matings. It is a mistaken idea that the man at the top of the tree must necessarily be the best breeder, or the man most qualified to advise or instruct others how to reach his dizzy eminence. As a rule, the reverse is the case for the breeder does not make his birds, mark you, he merely puts Nature on the way of doing that for him. If he has a long purse, he does not need to do much more than show that he wants the best. They will be brought to him, and the results will generally justify his enterprise. But for advice to the novice and the breeder who wants to start in a modest way, go to the man who has trod the same tortuous path. He may not have bred a Dairy or Crystal Palace winner, but he has bred his stock "up" and has learned in the process much of Nature's waywardnesses and leanings, of which the man who has only handled the best is, and must remain, ignorant.

It would be quite impossible to here lay down instructions for mating faulty stock. In some of the foregoing chapters, such information as is possible has been given, but as a rule they are

applicable to high grade birds. If the reader cannot apply the advice there given to his own needs, the best thing he can do is to enlist the sympathy and assistance of some local fancier who is known to breed Orpingtons and show them. Ask him the why and the wherefore of his selections, and by marking the eggs and the chickens as they are born see how the effects work out. When you do this you will have begun your career as a breeder. Nothing to my way of thinking is more fascinating than to watch the results of your solutions of Nature unfolding. It cannot be done by haphazard guessing; you must mark each egg and chick, so that they may be readily distinguished at any time.

The best time to mate up for early chickens is in the end of November. If, however, you mate up then, you must not put too many hens to come into lay at the same time. The male bird will not trouble about a hen in winter until she is coming on to lay, but when there are more than six in his pen in that condition he is likely to have some favourites for which he will neglect the others. Some people think that an early mated cockerel should get a rest half way through the breeding season, but I have never experienced the necessity for this, if too many hens are not given him, nor do I agree with removing the male bird from the pen too soon. I have found the end of May quite the best time to effect such a separation, for if done before the bird mopes and gets in quite a low condition, just when he should be got into a fit state to meet the calls of the moulting stage. As the breeding season advances I give more stimulating food, if the hatching results are all right, to the cockerel, and if he is injuring the hens' backs let him in for a couple of hours in the early morning and again at night. If the birds are allowed to run together when the feathers have been torn from the hens' backs, the cock is liable to tear the whole side out of the hen—just as though a dog or a cat had worried it—with his claws, and so a good show hen has often been spoiled.

Sometimes it happens that a cock or cockerel, much desired for breeding, does not yield a fair proportion of chicks. For cases of this kind I have found it beneficial to shut him off during a portion of the day and turn in another of which the matings are equally good. But it is folly to turn in two males into the same pen, if the birds have a free range they will mate off according to their hennish fancy, but otherwise there will be a terrible fight, and even if no harm is done, one of the birds will be so cowed that he will do nothing more than interfere with the other. Of course, when you use your cockerels in this way you cannot tell exactly how you stand in the results. It is a most deceiving thing at times to trust to your eye and judgment. I have had hens in my pens which I had proved to have never yielded me a chicken, and in two cases not even a hatchable egg, yet I had pullets out of those pens which I found it difficult to believe had not come from some of those hens. And were it not that nobody ever went near the birds but myself, and that I had had

them under observation practically all day, I would have resented the belief that they had failed me, and accepted those pullets as being their progeny. Was it a case of "sight influence" or self-deception, or the result of consanguinity. I prefer to accept the latter explanation, although I am not certain that the influence of sight is a myth, for I had amongst my chickens in 1902 a black Orpington pullet with about a dozen pure white feathers in her saddle, bred from parents I had raised, but out of a pen running parallel to one in which I had some white Leghorns. It was caused by no surreptitious visit from one pen to the other I am certain, for the Leghorns had their wings clipped and the wire fence was six feet high round both pens, over which no Orpington that I have ever seen could fly after it had reached maturity.

This reminds me that a three foot fence is quite high enough for an Orpington pen if the birds are bred a proper size, for they dislike flying, and are very satisfied to be permitted to remain in their own ground.

When mating up, always ring your hens so that you have a positive and simple clue to the identity of the egg, if you desire to know. Also enter up in a diary the composition of each pen, and the numbers of the rings on the hens. Then, when you change any of the hens, register the change, and you will find it very useful when you want to know which matings to repeat in the succeeding year. For I do not advise anybody, not thoroughly conversant with his stock, to simply mate up a pen and run it thus through a season. It may be that there are some hens that cannot be given a change by reason of some need for correction not possessed by the other cock, but I have sometimes secured a most valuable mating by changing a hen "between her lays," from one pen to another, even though I had thought the first pen was the better mating for her.

The variation noticeable in size, shape, and carriage between the chickens out of the same mating is often little less than remarkable. I have come to the conclusion that the different "lays" of a hen in the same mating give different results, not greatly different, perhaps, but quite different enough to cause the chicken out of one to be placed first in a class in which a chicken out of the other would barely get a card. That, of course, is an argument in favour of maintaining the same mating, but if it be a pullet mating, I prefer to experiment as I have pointed out. But the kernel of the whole question is the proper registration of the chickens and their parentage. This done, something akin to fixity in result is assured.

In America what is called "line" breeding is resorted to, but my experience of America and Americans in other lines of business leads me to suggest that too much attention should not be paid to what reaches us on matters of this sort. My own experience teaches me that it requires the utmost vigilance and the greatest care and accuracy to maintain one's stud records. Line-breeding depends wholly and solely on such accuracy, and I am very sceptical

regarding its presence in these American breeding establishments. But I cannot see that I think it has led to any such startling successes as would cause me to adopt it with all its attendant troubles. Line-breeding to my mind is only advantageous to the man who has reached the top of the tree and requires to keep his strain to himself, and to cause others who want it to come to him for it. It argues perfection, and I have never yet seen it, so that I am content with all other British breeders to go on taking my changes of blood from my fellow-breeders, and, if good enough, supplying them with theirs. To those who would like to breed on the line scheme, I recommend a study of the several systems illustrated in Mr. Lewis Wright's "Book of Poultry."

CHAPTER X.

HATCHING AND REARING CHICKENS.

So much has been said and written on the subject of hatching and rearing chickens, that it simply remains for one to digest it in the light of personal experience. But it is only right to say that much that appears in text-books on the subject, seems to me to have been the outcome of dealing with eggs that were not prize-bred, and chickens that could fairly be expected to raise themselves.

No text-book that I have read tells you much about raising January chickens from prize eggs—for the apparent reason that nobody who has written a treatise on the subject has done so from a fancier's experience. To raise chickens in April, and to raise them in January, are two very different affairs. And the style of treatment of the birds, or the method chosen for hatching, might be quite satisfactory in April and be an utter failure in January.

For most purposes connected with the raising of Orpingtons for show, April is the last month in which incubation is advisable. January is not a month in which I would advise much hatching to be done, for the simple reason that the cockerels raised then will probably go into moult before winter, and the pullets, to a certainty, be laying before July. I have never got either my biggest or my best birds from January hatches in blacks, while in buffs, the first hot sun of June will blanch the plumage, and the warm nights of July will bring them on to lay with a certainty that is very depressing.

February hatchings are better, for if of the big show growing kind, the birds will not go into moult before winter; but if small and active, will do so of a certainty. I like to get my best eggs about the second week in February, and do not complain if my old

hens weigh in with their contributions in the middle of March—though some will not do so until April.

If you are going to make a debut, or want some cheap winning, hatch early. For if you hatch early you will be able to put well-grown cockerels and pullets in the young bird classes in July and August, when the best birds are as yet unready. Thus your second and third raters, if well grown, will probably score. But if you are breeding for stock, or the big shows, if you put your eggs down in mid February you will be quite early enough in blacks, while your March and April pullets will, in buffs, require some careful handling to prevent them from coming on to lay by October.

On the other hand, if you don't hatch until April and May, your birds will not, in all probability, be fully matured, nor will they be as good for stock purposes as the early March hatched chickens. March hatched pullets will be in their second lay in February, and although some people like to set their first eggs I have never found it satisfactory, nor are these eggs, as a rule, large enough to indicate the probability of big chicks—if the eggs are large I would incubate them, but not otherwise.

As to the method of incubation, I have no hesitation in asserting that for early hatching the hen is certain to bring out the best hatch, even if she—as most early mothers seem to do—eats a couple or mashes them up for a start. I have set incubators in December with eggs from the same pens as I set them with in May, but while the May hatch might be 70 per cent. of fertiles, the hatch in January would more nearly approach 30 per cent. I state this as my own experience, knowing that some of my friends have had their 70 per cent. January hatches—but they did not hatch with my eggs, and that makes all the difference. An incubator hatch with a standard machine depends a good deal more on the character of the eggs than on the handling of the incubator, given average intelligence of course. That is to say, the eggs of hardy breeds of birds will hatch as well in a good incubator in January as the eggs of highly-bred birds will under hens—and no heavy breed is hardy in this sense. The birds as adults, may be as hardy as sparrows, but as chickens they are soft and require good handling.

As the weather opens and the germs become stronger, you can count on your incubator hatches with greater certainty; but, as I have said, my experience has been decidedly in favour of the hen. That is, so far as percentage of chickens is concerned. In every other way I prefer the incubator. Contrary to the accepted idea, the incubator chick is as strong, as virile, and more healthy than the average hen-hatched chick. Perhaps this is because only the strongest germs survive—but the fact remains. Then again, it is less trouble to attend 50 chicks in a good foster-mother than half that number under three hens, while I would rather look after two 100 egg incubators than half-a-dozen sitting hens. Chicks raised in foster-mothers are clean when they start, and can be kept free

from vermin with ordinary care. But when you have to purchase your brooding hens, vermin on chicks is, in my experience, an almost certain consequence, no matter how you dust them with pyrethrum.

And if you do dust a hen before setting her put her on some pot eggs for a night, as the pyrethrum causes such ructions in the feathered world, that, if she be put on live eggs, the probabilities are, that in the ensuing irritation, the hen will so shift about that she will break some of the eggs.

When you are setting hens the matter of keeping the hatching eggs does not much trouble you, for the hen will take a small number, and even if they are not fresh, she will bring them through. But if you are running an incubator, I do not counsel putting down eggs more than a fortnight old, and even then, how you have kept them is an important point. Some people believe that turning them each day while they are being accumulated helps to keep them fresh or hatchable, but I do not. I think that the less handling eggs get the better will they hatch. I gather my eggs as gently as I can, and take them at once to the store room—a dry airy cellar for preference—and place them, big end downward, in boxes of chaff or bran. I put them big end downward in the belief that the weight of the contents of the egg shell, bearing down on the air sac at broad end of the egg, tends, to some extent, to prevent its expansion—and expansion in the air cell simply spells evaporation of the egg—an operation which had best take place after incubation has been commenced. I would not think of putting into an incubator eggs that had travelled any distance, and before setting them under a hen I would give them 24 hours' rest.

For setting purposes, I like small light hens. My worst hatches have been those under my big show birds. They incubate their eggs all right, but either their bulk or their clumsiness generally ends in an appalling series of chicken accidents. If I can manage it I take the eggs from under the hen on the 20th day and put them in an incubator to be hatched, only replacing the chicks under the hen when they are twelve or twenty-four hours old. Even then she will probably trample a couple to death before they can gain sufficient agility to get from under her feet; but left under her, the odds are, that as the shell weakens to permit the chick to get out, the heavy hen will simply pulp chick and shell. The small light hen may not cover so many eggs, but she will rear a greater number of chickens.

I have a preference for buffs for mothers, if only because they are smaller than blacks, and go brooding much earlier. Both colours make excellent mothers, and if both are being bred I advise mixing the chicks under each hen, so that one will not kill a stray black or buff mite that may wander into her fold. When mixed in this way, they can run promiscuously together.

As regards hatching itself, I advise making the hen comfortable for a start. Don't make up a nest in a hurry. If necessary, wait

a day—it won't make much difference in six months' time, but may in six days. A carefully made nest ensures a comfortable brooder, and once comfortable she will do her work, never fear.

There are many ways of setting hens, but taking every circumstance into account I prefer to recommend the following:—Make a nest in an old sugar or similar box, which you can get from your grocer for 6d, or an old cheese box will do. At the bottom put a couple of spadeful of damp garden mould in which no stones remain. Mould this into a moderately deep saucer shape, in the bottom of the box, and press fairly hard. Then get some short hay and line the hollow so that it is an inch deep, well pressed over the mould. Into this put the hens after dusting, on some dummy eggs. When she has been sitting a night lift her out to feed and put in the live eggs, and she will go on all right.

Don't set a wild hen. It will generally end in her forsaking her nest, and if you have not an incubator or another broody handy your eggs will be lost. Never flurry a brooding hen. Keep her completely shut up on her eggs, and when you take her off to feed drop your cap or a warm piece of flannel over the eggs if the weather is cold while she is feeding. This permits you to let the hen take her proper time to feed no matter what the weather is like. Don't stay with her. Feed her in a shed and let her have it to herself. Give her 15 or 20 minutes, and then put her back and shut her up again.

I do not feed maize to broody hens. I prefer to make them take oats or oats and wheat mixed, and always put some soft food and grit out too, with water of course.

If an egg gets broken you had better wash the whole setting in water, heated to 104° Far., and put a fresh handful of hay in the soiled nest. Wash carefully and dry gently while the hen is being fed.

While the chicks are coming out under the hen, lift her up in front carefully from time to time, to take away the cast shells, and, if you can manage to have a snug basket by the fireside lined with cotton wool or very dry and warm hay, I would put the chicks there one by one until the hatch is completed. If the chicks cheep loudly they are not warm enough. They do not require any food whatever for at least 24 hours.

As regards artificial incubation, I am, after ten years' experience, inclined to say that incubators should not be set with prize eggs earlier than February 1st, in a mild winter, or three weeks later in a severe one. A dry airy cellar is the best of all incubator rooms because it is warmer in winter and cooler in summer than any other room in a house. In a well-floored and well-lighted cellar you will get incubators to work to within 2° which would not keep within 10° in a shed or an attic. As to the best incubator—a question which everybody asks—I have not discovered it. I have found a cheap incubator maintain its temperature as closely as the most expensive, and when

everything is said and done, that is all that any incubator can do for you. The manipulation of moisture, of ventilation, and the handling of the eggs, are matters only learned by experience and not communicable by printed instructions.

I frankly confess that I do not consider myself an expert in this department, for the simple reason that my most satisfactory attempts in theory and practice have not yielded any more brilliant results than when I have given the matter over to the incubator to do its work. I have had fugitive success just as others have, but I can seldom repeat my 80% hatches. In May incubators are at their best, but he who uses an incubator before that time, however carefully, must be prepared to find quite one half of his eggs destroyed. That is not what some people say, but it is what my experience has taught me. Infertility is greatest in the early months of the year, and germs are weakest. When you weed out the infertiles, and save up those that have "stopped" day by day from the 14th to the 20th, you will find that, for early hatching at least, my figures do not overstate the case.

"Dead in shell" is the great bug-bear in artificial incubation, and whether it is due to insufficient ventilation, or too much moisture, or too little, as various people affirm, the fact remains that no incubator, however certain in its thermostatic action, does nearly so well as the hen.

As I have said, there is much less trouble in looking after 100 eggs in an incubator, than three sitting hens. It is possible to raise 100 chicks in foster-mothers on half the ground and with one tenth the trouble which the same number under hens would entail, and they will come out at least as well if well handled. The main thing in setting an incubator is to have it working well before you put in your eggs, and don't put them in by sections. Fill the drawer at once as, apart from the danger of chilling by putting eggs not yet started beside eggs in which incubation has begun, there is the certainty that, when you have to look after the chicks as they come through, you are doing no good to the eggs that have yet a week or so to go. I turn eggs twice a day, and trim the lamps in the evening prior to turning, and wait until I get the thermostatic working right before I open the drawer to turn the eggs. By doing this I have no fear of having disturbed the regulation and so keep the register close. I keep a log of each hatch, ruling three spaces for the thermometer reading—at morning, noon and night—another column for the temperature of the room, and, if I am using a tank machine, another for the temperature in the tank. The subject, however, is one quite too wide for treatment in a chapter like this, and I would advise the novice to invest in one of the special treatises on the subject before purchasing an incubator. But if you invest in one, let it be a standard machine and not a nameless imitation which will spoil more eggs in a season than would pay for the difference in price between it and the dearest incubator on the market.

In the rearing of chickens there are quite a variety of practices and theories. I have tried most that have been advanced, but not so exhaustively as to warrant my posing as a critic. I don't propose to combat any, but will simply give my own methods.

For incubator chickens I start my brooder a week before it is to be inhabited. *I put it under shelter* if the weather is severe. I have known good broods to be raised in the open in tank machines at a heavy cost in oil, but my own experience is that any rough shed, which will keep off the rain and the wind, is better with the cheapest brooder, than is the most expensive, if placed in the open. It is a mistake to think that young chicks, up to a month old, must have grass. Give them green stuff finely chopped in their morning food, after they are ten days old, and that is all that is necessary. Some people despise the hot air rearer, in which an ordinary hurricane lantern is placed in a cell in the sleeping chamber, under the belief that the lamp's fumes must be bad for the chicks. They may be, but I have never seen healthier chickens than have come out of hot-air foster-mothers. So long as the rearer is not overcrowded—40 chicks to a rearer sold to bring up 100 is about the maximum—and kept clean and not too hot, the hot-air rearer is as good as any other, and as it can generally be more easily cleaned, it is to be preferred if you can put it under shelter until the birds are a month old. I bed my chicks on *dry* chaff, made dry by baking in an oven if necessary, and change the bed once a week or a fortnight, according to condition.

Keeping the chicks well bedded and comfortable is half the battle. Don't let them get damp underfoot, even in their run, as that starts diarrhoea and all the other chicken troubles which sometimes depopulate one's brooders. If there is any symptom of this put a little powdered chalk in their food.

Feeding is a matter of much diversity of opinion. I start on grated bread crumbs mixed with finely-chopped egg boiled hard. I keep this up for five or six days and if everything is going right then, I begin to introduce some fine oatmeal, to be replaced a little later by groats. Then I feed biscuit meal and some malt culms steamed and mixed with fine middlings and fed very cool. This comes in when the birds are about a fortnight old, and if I can wet the biscuit meal with milk, I do so. When the birds are a month old, I begin to put some fine chicken grit in their soft food and give a little barley meal mixed with the middlings. If I could afford it I would feed on oatmeal and biscuit meal mixed, but I am not a great believer in the general run of ground oats, which consists of more ground husk, as a rule, than ground oat.

After the chicks reach two months old they get what my adult birds are getting, but I feed soft food three times a day and wheat in the evening. I give iron in the water, too, and, if they are growing fast, give them some of Parrish's Chemical Food in their morning meal three times a week. This is specially necessary for big young cockerels, which, after they reach 3 months should be

fed separately from the pullets and fed well, or you may get weak legs and long shanks and anæmic birds unless they have large grass runs.

Grass is absolutely essential to obtain the best bone development and to secure robust stock. There will always be less sickness and greater fertility in chicks raised on grass runs. Boxes containing flint grit should be easily accessible by them, and water troughs should always be shaded from sun and snow or frost, and filled with fresh water every morning at least.

For bedding growing chickens, nothing beats peat moss litter well broken. Have perches in the runs or set in the shade, but don't put perches in the sleeping houses until the birds are four months old. If you don't have perches in the runs the birds will not all use them when you put them in the sleeping houses and will dirty each other. I always have floors to my chicken houses, well raised from the ground and spread six inches deep with peat moss. This is turned over thoroughly every morning and the houses thrown open to sun and wind. They are thus kept sweet and wholesome.

When chickens are six months old you can generally cull out the pullets with confidence, but the cockerels are different, especially buffs. I have known many a buff cockerel white flighted at six months turn out a very decent bird at ten, simply because the buff pigment continues to invade the white flights until the bird is practically an adult. But the really mismarked black one is obvious long before this and should be weeded out without remorse. Don't keep your culls in the chance of making another shilling a head. Get them out of your way as soon as you see what they are, and so make room for better birds.

Don't overcrowd your ground, and as soon as your show birds begin to cast their chicken feathers—that is, their first coat after losing their woolly covering—give them all the shade that you can, so that the tender colour of their soft feathers may not be injured by sun or rain.

CHAPTER XI.

PREPARING FOR EXHIBITION.

PREPARING birds for exhibition is not a matter of a few days or few weeks, but must be borne in mind all along. If you see any chicken standing out from the rest, watch it carefully, see that it takes food in abundance and shelter from the weather.

I don't believe in cramming young stock, but there is no doubt that birds that are intended for show must be even liberally fed or they will not bulk to their best in the show pen, or have that forward development, especially in cockerels, which often means winning over better birds that hang more and don't get to their best until it is time to put them in the breeding pen. And once having put birds in the breeding pen don't take them out for show purposes.

When blacks get to five months old you had better go over them and select the most promising for special treatment. Give them roomy and shady grass runs, or at least runs roomy and shady. If you crowd them, they don't make nearly the progress that they might, and cooping them up in small spaces simply forces pullets on to lay, and when early pullets lay, their combs invariably fall over, spoiling them for the show pen to a considerable extent. Cooped up cockerels do better, but room, and plenty of it, is best. Shade is an absolute necessity if your birds have not good colour, for the sun and wind and weather will fade a dull bird out of all chance of scoring. If you have brilliant colour you do not need to care so much as regards your cockerels, but the pullets demand a fair amount of shade to keep them back and preserve their lustre. If you give artificial shelter it must be of such a kind as does not secure a hot low roof, as this brings over a bird's comb and upsets its condition even more than the sun would. Feed plainly. Twice a week put a tablespoonful of raw linseed oil in the morning mash for about a dozen fowls, and physic regularly with epsom salts in the drinking water once a fortnight. These measures will help colour of feather, comb and lobe.

Three weeks before their first show begin to handle the birds, so that they may become accustomed to the process. Put them for a couple of hours a day in a show pen, so that when they go to the show, they will not feel strange and refuse to face the judge. If possible, put the training pen where plenty of people will pass, and in the end the birds will pay no attention to passers-by.

Accustom your birds to eat from your hand, this will give them confidence, and at least two or three times before the date of the show wash head, feet and legs well, and brush the plumage with a soft hat brush. This is not very important but it tends to get the bird into better form than if only washed and put into its basket immediately prior to being despatched to the show.

There is not much art in getting a black Orpington ready for exhibition apart from feeding and tending. You only need to wash its comb and lobes with soap, warm water, and sponge, and to scrub its legs and feet with a nail brush. Then dry, and with a small sponge dipped in vinegar go over the comb and lobes, and after rubbing into the legs and feet some

carbonised vaseline, wipe with a dry cloth. If the comb be cut, use the vaseline on it also.

The preparation of buffs is quite a different matter. If you have a pure atmosphere, you can dispense with the body washing that some people say is necessary. I always think that a feather once washed never has the same appearance as the unwashed feather. But if your bird is soiled, then of course, washing is a necessity.

To do it get a bath of water up to about 105° F. in which you have put a little washing soda. Tie the bird's legs with a piece of rag and put it bodily in. Soak the feathers well and with a piece of ordinary white soap stroke down the bird along the feathers. Now work in gently under the feather with your fingers and press out the soap as you pressed it in. Do this over and over again, washing every part, including the legs, head and neck. Now take out the bird and rinse it in two successive waters heated to about the same degree.

To dry, get a bath towel, and, after taking all surplus water out of the plumage with a sponge, gently sop the bird all over until you have made it fairly dry. Take an open wicker show basket and, after making a comfortable bottom with hay or straw, put the bird in it in front of, but some distance away from, the fire in a kitchen or similar room. Let it remain there all night and in the morning it will be quite dry. Birds should be washed at least three days prior to a show, in order that they may get their plumage into proper condition again.

After this is done, it only remains to vaseline and wipe the legs, and to touch up the bird's comb with vinegar before basketing it. Should dirt have got under the scales of the feet or legs, it will be necessary to remove it by gently passing a thin flat piece of bone or wood under the scale and picking away the underlying dirt. If you don't do this the show reporter will write "sooty legs" against you.

A great deal has been written about colour feeding in buffs for show, but I don't think that colour feeding is really practised in this country any more than is line breeding, or, if practised, that it is really worth the trouble. I do know that the only man who has won the pullet cup at the Crystal Palace Show for three years in succession has never fed for colour in any way beyond sound wholesome food such as I have described. You must breed in your colours that is all, and hold it by shading and bringing your bird into the show in good health and condition.

CHAPTER XII.

EXHIBITION STANDARDS.

No work of this kind would be complete unless it included the standards of excellence adopted by the two clubs formed to advance the interests of the black and buff Orpington. I daresay that they serve some good purpose, but speaking as a breeder I think that they mostly fail where they are most intended to serve, and that is, as a guide for exhibition judges. I think that I am nearly right when I say that not one poultry judge in twenty could tell you off-hand the standard scoring values of any particular feature in the Orpington. Judges may elect to ignore the standard even at the Orpington Club Show, and, generally speaking, these standards for judging seem to have been made so that they could be broken at will. As for the points values for blacks set out with such minuteness, I think it absurdly out of date now in its apportionment. At anyrate it is totally ignored by every judge, and rightly so, for to give one fourth of the points to the head, making eye and face equal, is preposterous. To attempt to judge a black Orpington class by this method would end in the judge being denounced by fancy and press. The Buff Orpington Club recently remodelled its point score, but I don't think it is much attended to, judging by the results. The following are the standards:—

BLACKS.

GENERAL CHARACTERISTICS OF COCK.

Head and Neck.—Head: small, neat, fairly full over the eye, carried erect. Beak: strong and nicely curved. Eye: full, bright and intelligent. Comb: single or rose. The single comb to be of medium size, erect, evenly serrated, free from side sprigs. The rose comb should be set straight and firmly on the head, full of fine work or spikes, free from hollow in centre, and narrowing behind to a distinct peak lying well down to head (not sticking up). Earlobes: medium size and rather long. Wattles: medium length and well rounded. Neck: nicely curved with full hackle.

Body.—Breast: broad, deep, and full, carried well forward, long straight breast-bone. Back: short with broad shoulders. Saddle: rising slightly, with full hackle. Wings: well formed and carried close to the body. Skin: thin and fine in texture. Flesh: firm.

Tail.—Medium size, flowing and inclined backwards.

Legs and Feet.—Thighs: short. Shanks: short and strong. Toes: four in number and well spread.

General Shape and Carriage.—Cobby and compact; erect and graceful.

Size and Weight.—Large. Between 9 lbs. and 10 lbs. when fully matured.

Plumage.—Close.

GENERAL CHARACTERISTICS OF HEN.

Head and Neck.—As in the cock.

Body.—Breast, Back, and Wings: as in the cock. Cushion: small, but sufficient to give the back a short and graceful appearance. Skin and Flesh: as in the cock.

Tail.—Medium size, inclined backward and upward.

Legs and Feet.—As in the cock.

General Shape and Carriage.—As in the cock.

Size and Weight.—Large. About 7 lbs. or 8 lbs. when fully matured.

Plumage.—Close.

COLOUR.

In both Sexes.—Beak: black. Eye: black. Comb, Face, Earlobes, and Wattles: red. Shanks: black. Skin and Flesh: white. Plumage: black throughout, with a green sheen or lustre upon it, free from coloured feathers.

VALUE OF POINTS.

COCK OR HEN.

							Deduct up to
Defects in plumage and condition	...	...	...	...	...	...	10
„ head 5, comb 7, face 5, beak 3, eye 5	...	...	...	...	...	...	25
„ breast	...	...	...	...	...	...	10
„ saddle or cushion and back	...	...	...	...	...	...	5
„ tail	...	...	...	...	...	...	5
„ legs and feet	...	...	...	...	...	...	5
„ skin and flesh	...	...	...	...	...	...	5
Want of shape	...	...	...	...	...	...	15
Defect in carriage	...	...	...	...	...	...	10
Want of size	...	...	...	...	...	...	10

A perfect bird to count 100

BUFFS.

General characteristics in both sexes the same as in Blacks.

COLOUR.

In both sexes.

Beak.—White or horn colour.

Eye.—Red or brown, the former preferred.

Comb, Face, Ear-lobes, and Wattles.—Red.

Shanks.—White.

Skin and Flesh.—White.

Plumage.—Any shade of buff from lemon buff to rich buff, on the one side avoiding washiness and on the other a reddish tinge. The colour to be perfectly uniform throughout, allowing for the greater lustre on the hackle and saddle feathers, and of the wing bow in the case of the cock only.

VALUE OF POINTS.

COCK, OR HEN.

						Deduct up to points.
Defects in head and comb,	...	...	...	...	...	10
Defects in skin and flesh,	...	...	...	...	...	5
Defects in colour,	...	...	...	...	...	30
Want of shape,	...	...	...	...	...	20
Want of size,	...	...	...	...	...	10
Defects in legs and feet,	...	...	...	...	...	15
Want of condition,	...	...	...	...	...	10
A perfect bird to count,						100

DISQUALIFYING DEFECTS.

Defects for which any Orpington should be passed by a judge—Other than four toes; wry tail or any deformity; the slightest feather or fluff on legs or feet; long legs; yellow skin; twist or side spikes on comb, or comb over to one side; yellow in legs or feet.

In Blacks any coloured feathers.

In Buffs any white or much black in tail or flights. Legs any colour but white.

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